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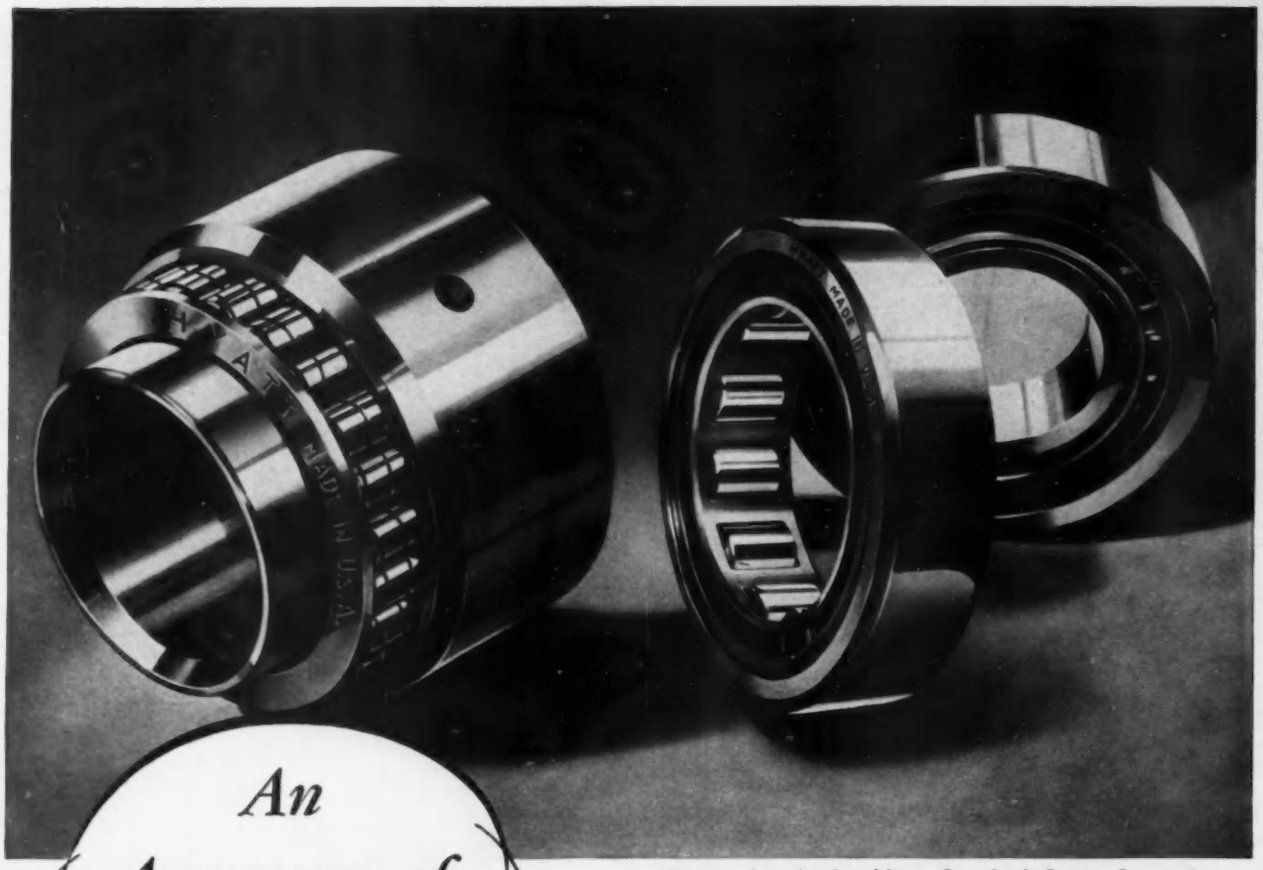

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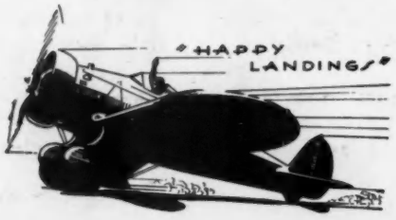

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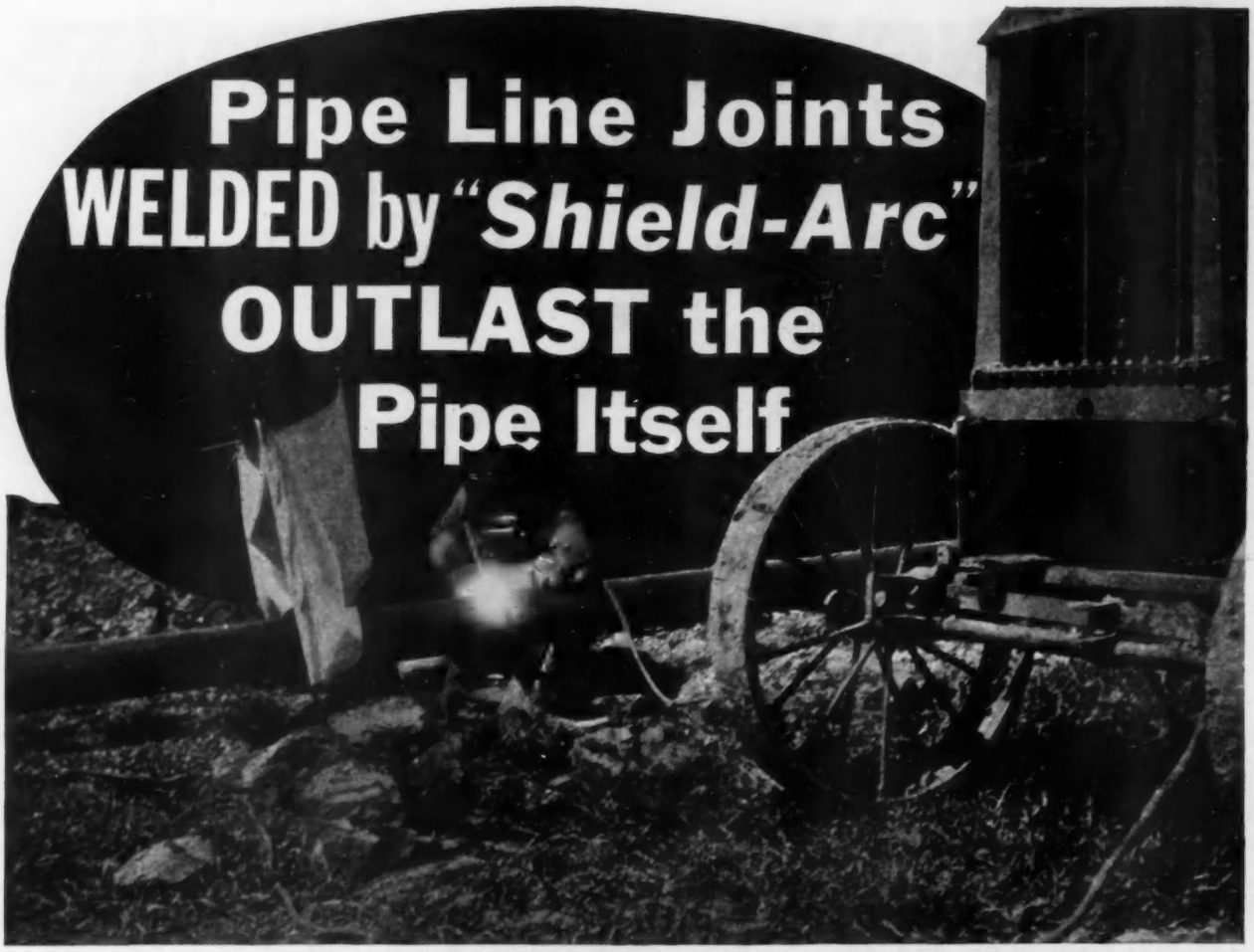

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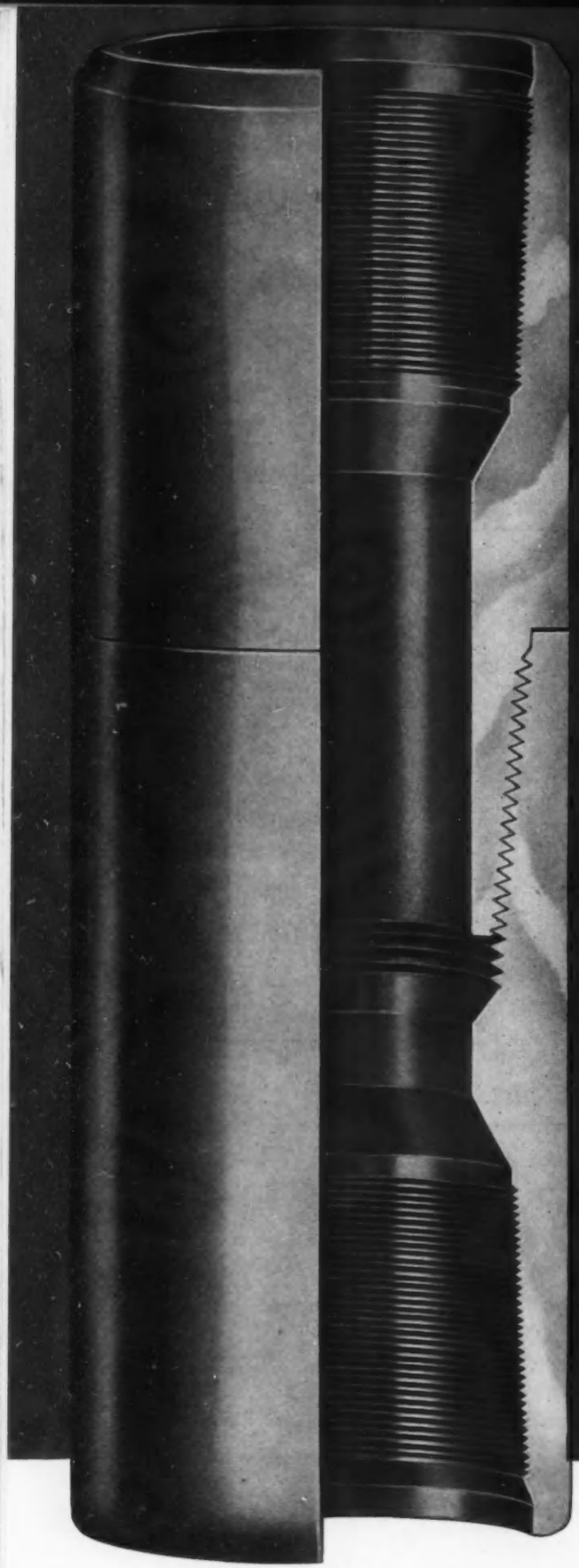

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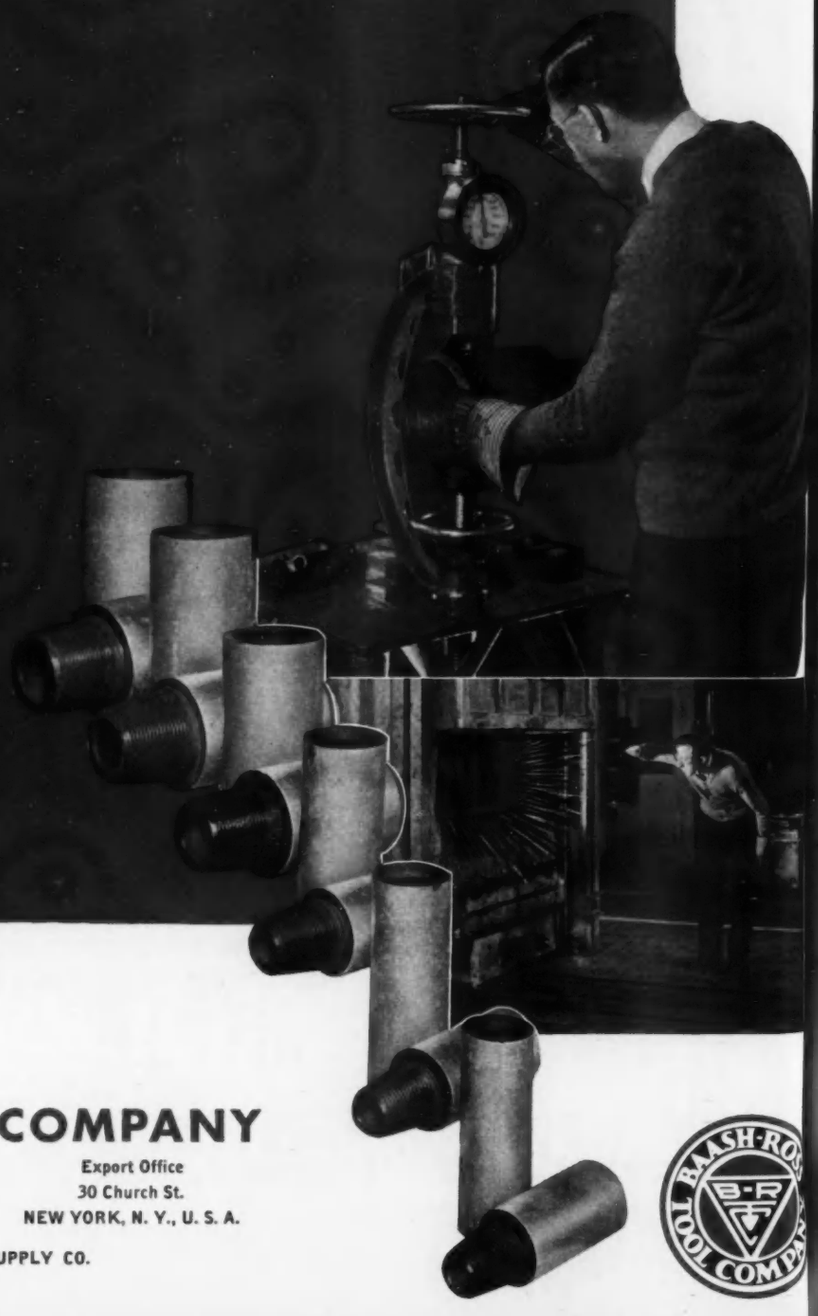

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor

. . . this Week

AS TIME wears on it becomes more and more apparent that any oil control bills will not be passed during this Congressional session. At present Congress is looking forward to adjournment and has sufficient Presidential "must" bills ahead of it to keep busy for another month or more. Consequently, it would be a poor time to try and force through any oil control acts, which are still lacking the President's approval. **Page 9.**

THE TEXAS Railroad Commission is preparing to write a gas proration order under the terms of the state's new anti-waste statute. A question of paramount importance is the spacing of drainage area of producing wells. This became evident last week at a gas hearing, the last to be held before production of sweet gas is prorated. Engineers testifying offered widely differing views on the drainage problem. **Page 8.**

WHEN Industrial Fuel Supply Company was remodeling its Huntington Beach Number 5 compressor station, so as to take care of a greater capacity, it was decided to reverse the flow of gas through the cooling units. As result a drop of 10 degrees in temperature was obtained. At the same time, piping arrangements at the plant were changed, as were several other features. **Page 29.**

THE Minerals Section of the American Bar Association devoted considerable time to discussions on the legal problems confronting the oil industry at its recent annual meeting. Some very interesting and enlightening papers were presented. The meeting took place last week in Los Angeles. **Page 10.**

THE economy of conserving the energy stored in dissolved gases now is recognized by producers of oil. A newer practice in the conservation of gas has been the use of multi-stage separation of oil and gas mixtures. Where gas-oil ratios are exceptionally high the advantages of stage separation are far more marked. A number of experiments have been conducted by the School of Petroleum Engineering at the University of Oklahoma, the results of which are given in this issue and outline many of the advantages to be obtained by the application of this method. **Page 19.**

The Oil Man's Calendar

AUGUST

American Petroleum Equipment Suppliers Association.

19-24 American Chemical Society, San Francisco, California.

SEPTEMBER

18-20 National Petroleum Association, Atlantic City, New Jersey.

OCTOBER

10-12 A.I.M.E. Petroleum Division, Mid-Continent Section, Houston, Texas.

16-17 American Association of Petroleum Geologists, Mid Year Meeting, Mexico City, Mexico.

NOVEMBER

4-5 Independent Petroleum Association of America, Annual Meeting, Dallas, Texas.

11-14 American Petroleum Institute, Annual Meeting, Biltmore Hotel, Los Angeles.

THE allowable production of the state of Texas for the month of August has been established by the Railroad Commission at a figure seven percent less than the July allocation. This will cut approximately 80,000 barrels daily off the state's output and is expected to stop runs to storage. East Texas was reduced to three percent of the hours potential. **Page 10.**

SEVERAL concerns are studying drill pipe rotating speed and weight in an effort to determine the importance of these factors in drilling various formations. It is known that there is a definite relationship between correct speeds and weights and drilling progress. Recent results obtained by changes in rotating speeds and weights on bits have been very enlightening. **Page 25.**

THE Department of Justice is studying the question whether oil seized by the state of Texas as an illegal product and then publicly sold can validly move in interstate and foreign commerce for export under the Connally Contraband Oil Law. The rule will be an important one. It is agreed that oil thus sold can be disposed of in Texas, but there is doubt of its right to be passed into other states or exported. **Page 8.**

DIVORCEMENT of pipe lines would gain but few advantages and would create many additional evils, including disruption of the present extensive system that is so vital to the operation of producing and refining areas. **Page 14.**

Gas Proration

PROBLEMS CONFRONT TEXAS BEFORE ISSUING NEW ORDER

AUSTIN.

THE question of paramount importance before the Texas Railroad Commission, as it prepares to write a gas proration law under the terms of Texas' new anti-waste statute is: What is the efficient drainage area of a well?

This became apparent here early in the sessions of a two-day hearing on the gas problem, the last hearing before production of sweet gas is prorated. Proration of sour gas in the Panhandle is deferred until later in the fall.

Unable to complete the hearing on Thursday, it was extended over to Friday.

The extent of the problem was indicated by the close attention paid, and strict cross examination of the first witness, Dr. Eugene Stephenson of the Missouri School of Mines at Rolla, placed on the stand by Charles Keefer, attorney for Canadian River Gas Company.

Wide Spacing Best

Stephenson's views, maintained through hard cross-questioning, are that one well would drain the entire field; and consequently, the larger the units, the better.

Keefer asked him if a proper drainage unit would be 2560 acres; Stephenson didn't think that high enough. Moreover, one well would "save" more gas on that acreage than 16. The 16 wells, he pointed out, might recover more gas; but the small additional recovery would be more than offset by the gas used for operating the 16 wells and their combined leakage.

Stephenson admitted that his ideal unit, around 4000 acres, would be too large, as a practical matter, for those sections of the field more densely drilled. For instance, in Wheeler county there is one well to 475 acres, on an average; while in Moore and Potter counties, the average is one well to 4200 acres. He suggested that the commission might so zone the field as to take care of this situation. "Establish units which lend themselves to conditions."

But for the smaller tracts, such as 20 acres, he insisted that they should be unitized and allowed only their prorata share of the unit allowance.

Asked about the equities of such an arrangement, he responded that the equity in allowing a man on a small tract to pròduce more gas than was beneath his tract amounted to allowing him to produce from his neighbor's tract.

"And it's difficult to achieve equity where inequity has prevailed," he added.

Attorney Maurice Cheek brought out that under Stephenson's suggestion of proration on the basis of acreage alone, it is presumed that sand conditions are uniform throughout the field, while as a matter of fact conditions are far from uniform. It was the only concession the witness was willing to make.

Stephenson's testimony as to the drainage areas of wells was based largely on tests he completed but last week, in Moore and Potter Counties, on three groups of wells.

On eleven grouped wells, he found a drainage area of 27,000 acres, or 2460 acres per well; on seven grouped wells, a drainage area of 22,400 acres, one well to 3200 acres; on five wells, a drainage area of 28,000 acres, or one well to 5540 acres.

He admitted that more information as to sand conditions, particularly the permeability of the sand, was needed.

Questioned by Commissioner Ernest O. Thompson, Stephenson agreed that one good dividing line, should the commission desire to zone the Panhandle, would be a low-pressure and water area extending across the defined limits of the field in Gray County. Another more arbitrary division might be created by running a line along the low pressure area in Carson County.

Exhibited at the hearing were two great maps, prepared by the commission's staff of engineers. Also submitted by them was a table showing 24-hour potentials, as follows:

Panhandle, 14,037,151,000 cubic feet from 1074 tested wells; East Texas, 2,440,915,073 cubic feet from 254 tested wells; Gulf Coast, 1,552,400,000 from 23 tested wells; Southwest Texas, 1,332,293,000 cubic feet from 167 tested wells. Tests were on 14.65 pounds pressure and the observed gravity.

The weighted average pressure in the Panhandle was found to be 362.95 pounds per square inch. Some of the Panhandle wells were tested on the Bureau of Mines back-pressure method, but most of them on 30-minute flow tests. The back-pressure method was used elsewhere.

Allowable Formula

Something, which the layman could understand, were some sample calculations showing the return, in dollars and cents, of suggested proration methods, although the method of arriving at the dollars and cents was somewhat complicated.

The suggested formula first took into account a factor derived by:

$$\frac{\text{Market Demand—(No. wells x marginal allowance).}}{\text{Sum of individual potential acres:}}$$

The allowable would be the factor times potential acres. The unit was

Seized Oil Status

DEPARTMENT OF JUSTICE TO RULE ON RIGHT TO MOVE IT

WASHINGTON, D. C.

STATUS of "hot" oil seized by the State of Texas and sold, some of it being said to find its way back to the hands of the original producers, is before the attorney general for an opinion as to whether it can validly move in interstate and foreign commerce for export, under the Connally Law.

The matter was referred to the Department of Justice by Charles Fahy, chairman of the Petroleum Administrative Board, before whom attorneys representing the present holders of approximately 1,000,000 of the 3,000,000 barrels seized by the state had laid the question of whether its purchase from the state had removed the stigma of illegal production and paved the way for the securing of tenders for shipment.

While excess production seized by the state and sold may legally be transported, sold and consumed within the confines of Texas, it is said, there is a question as to its status under the Connally Act.

It is understood that the present holders of the oil confiscated and sold by the Texas authorities are not seeking to impose the product upon that already moving in interstate commerce but desire to take advantage of opportunities to sell it abroad.

The opinion of the attorney general as to whether by some dispensation it may not be possible to move this oil out of the state was sought because under the Connally Act contraband oil is defined as petroleum "produced, transported or withdrawn from storage in excess of the amounts permitted to be produced, transported or withdrawn from storage under the laws of a state," and the shipment or transportation in interstate commerce from any state of contraband oil produced in such state is prohibited, and made subject to seizure.

It is explained that while the sale of seized oil legalizes it for disposal within the State of Texas, it still remains, so far as the Connally Act is concerned, oil produced in excess of the amount permitted under the state law and as such cannot be certificated.

It is contended that passage through the hands of the state authorities should remove the taint of illegality. It is pointed out that the government sells to persons in this country watches and other articles seized for smuggling, and that the articles so sold may freely be sold.

considered to be 160 acres; the sum of potential acres, 1,757,041,001,000 cubic feet acres per day; and the market demand, 486,512,000 cubic feet per day. In each example must be an allowance of 50,000 cubic feet, the marginal well allowance.

Using this complicated formula, the well on 160 acres with a potential of 100,000,000 cubic feet would have a daily allowable of 4,116,080 cubic feet, which at four cents per thousand, would return $164 to the operator. The same well on ten acres would get 304,130 cubic feet or $12.15.

160 Acres Favored

Testimony at the state wide gas proration hearing Friday morning strongly indicated the Railroad Commission favors a drainage unit as low as 160 acres for Wheeler County and larger for the remainder of the field.

The testimony was by Gordon Griffin, chief petroleum engineer, who, during the course of his description of the survey made by the commission, asserted he did not believe a well's drainage area could be definitely defined, and the more wells drilled, the greater will be recovery. This was directly contradicting testimony of Dr. Eugene Stephenson of Rolla School of Mines Thursday, that one well on four sections would be adequate and larger drainage areas would be better.

Griffin based his statement on this reasoning: Low-pressure areas form around the well bore. The generally accepted low pressure for commercial production in the Panhandle is 25 pounds. Now if wells are widely spaced the fact that the pressure at the well bore has reached the minimum of 25 pounds does not mean the pressure is that low elsewhere. The more wells drilled, the fewer places there will be in the field where the pressure is above the 25-pound minimum. He thought that a 160-acre unit would be acceptable for Wheeler County, which, he said, is separated from the rest of the field by a low pressure area through which no appreciable amount of drainage will pass. Any drainage, he said, would be to the benefit of the low-pressure area, which is in northern Gray County and in which oil production is located.

Present Drilling Patterns

Griffin also put into the record a resume of the drilling pattern as it now exists in the field. This showed: 152 wells producing 18.2 percent of the output on 40 acres or less; 145 wells on 41 to 80 acres producing 20.6 percent; 184 wells on 81 to 160 acres producing 23.5 percent; 130 wells on 161 to 320 acres, producing 14.5 percent; 177 wells on 321 to 640 acres, producing 22.8; and 12 wells on 640 or more, producing 0.8 percent. Questioned by Attorney Maurice Cheek, representing independents, Griffin testified that sand permeability varied widely. A thick sand adjacent to a sand of high permeability is the rule, rather than the exception. Consequently it is not possible to determine the sand condition of any area in a single well in that area, he said.

Delay Control Bill

PASSAGE IS NOT EXPECTED DURING PRESENT SESSION

WASHINGTON, D. C.

TIRED from the steady grind of the past six and one-half months and the enervating mid-summer heat, which now pervades the National Capital, Congress is looking forward to adjournment and no further effort is expected to be made to pass the oil-control bill or other legislation not of the first importance.

Administration leaders in both Senate and House are finding it increasingly difficult to maintain peace as fraying nerves are evidenced daily in acrimonious debate on the floor.

Any effort to inject into the calendar legislation which cannot be justified as having Presidential pressure behind it would be strongly resented and leaders have adopted the wiser policy of confining their efforts to those measures which are on Mr. Roosevelt's "must" program.

Even on this basis, the earliest adjournment date now seen at the Capital is late August or early September.

Canvassing Situation

Proponents of control legislation for the oil industry for some days have been canvassing the situation, with a view to determining whether it would be possible to secure adoption of a measure.

While those most interested refuse to commit themselves, there are indications that they have come to the conclusion that pressure for the bill at this time would lead to the development of opposition and possible defeat and are represented as having reconciled themselves to a delay until next session.

The bill introduced June 14 by Senator Elmer Thomas of Oklahoma, ratifying the interstate compact, is lying quiescent in the files of the Senate interstate and foreign commerce committee. In the House, a sub-committee of the interstate commerce committee also has the matter before it and Representative Wesley Disney of Oklahoma has prepared a bill similar to the Thomas measure, but here, too, no action is forseen for the immediate future.

A major handicap to the enactment of oil control legislation has been the refusal of President Roosevelt to commit himself definitely on the matter. Further than a general expression of approval of the idea of the interstate compact, coupled with the comment that to be effective it should cover all the producing states, Mr. Roosevelt's attitude on the subject has been one of aloofness, even in the face of demands by Secretary of the Interior Ickes, who wields considerable influence at the White House, for broad Federal control of the industry.

The fact that the Interior Department head is involved in the matter has possibly detracted from its popularity. Secretary Ickes, as public works administrator, has been involved in quarrels with many of the leaders, as well as with members of the rank and file, in both Houses, and any legislation giving him increased authority and importance would meet with determined opposition.

Two factors are said to be contributing to the lack of interest in the oil measure at the present time. The most important is the apparent ability of the industry to control itself since the invalidation of the code; the other the possibility of a trade agreement being consummated with the Federal Trade Commission.

Just how far such an agreement would or could go is, of course, problematical, but many members of Congress believe that the time has come for the Government to reduce its interference with business and that industry should be given an opportunity to show whether, by means of agreements, it is capable of self-government.

It is generally admitted that the eventual fate of the control legislation depends upon the conduct of the industry during the next six months. In some quarters it has been predicted that the adjournment of Congress will be followed by the crashing of prices, the boosting of production and a return to the chaos which marked pre-code days.

But others equally conversant with the oil industry are convinced that a lesson has been learned and that the control achieved under the code will not willingly be relinquished by the industry itself. If this is shown to be true, control legislation will have little chance next session.

REDUCE ALLOWABLE

For August due stock in some states increasing

WASHINGTON, D. C.

DAILY average market demand for crude oil during August will be 2,600,600 barrels, as compared with 2,660,000 barrels this month, according to estimates of the Petroleum Administrative Board.

Continuing their estimates for statistical purposes since invalidation of the code removed federal control of production, but making the figures available to officials of any of the producing states who may be interested, the board found that Kansas and Texas production has resulted in increases during the first five months of this year of 1,000,000 barrels in the crude stocks of the former state and approximately 6,000,000 barrels in those of the latter.

The August estimates of the board give Texas a daily average for August of 1,024,400 barrels, against 1,064,000 barrels for July; Oklahoma, 512,000 barrels against 517,400 barrels, and Kansas, 148,000 barrels against 155,600 barrels.

On the basis that these states will not exceed those figures, the production in California should not exceed 510,000 barrels a day. Louisiana, 130,000 barrels, New Mexico 53,000 barrels.

OIL LEGAL PROBLEMS

Are discussed by lawyers at annual meeting

LOS ANGELES.

VARIOUS problems now confronting the oil industry were considered by the Mineral Section of the American Bar Association, which held its Fifty-Eighth Annual Meeting here, July 15 to 19. Most of the papers and speeches touched on the legal aspects of subjects involved, but business control and the place of the oil industry in national life also were discussed.

A feature of the meeting was a speech by W. R. Boyd, Jr., vice president of American Petroleum Institute, who stressed the importance of maintaining by regulation or voluntary action some semblance of order in the production of oil. Mr. Boyd discussed the various plans for control and regulation of the petroleum industry, and concluded that the voluntary, self-regulated route is best.

Patrick J. Hurley, secretary of war in the Hoover cabinet, addressed the Mineral Section on "Government and the Oil Business". He discussed the question of whether the defunct petroleum code is to be succeeded by control under a new United States statute, or by a system based on the police power of the states. He further showed that the regulation of production of oil, unlike the curtailment of production of some other resources has been sustained by the courts; but the power sustained in those cases, in every instance, has been the police power of the state.

Robert E. Hardwicke, Fort Worth, Texas, read a paper on "The Rule of Capture and Its Implications as Applied to Oil and Gas". He stated that the courts have now recognized, and should recognize, the fact that with a reasonable amount of data available, experts can determine approximately the amount of oil and gas in place in a pool, and also can determine at least the relative amounts of recoverable oil in the various tracts under any given set of operating conditions. Under controlled operating conditions, it should be possible for each operator to recover somewhere near his just share of the oil and gas.

"Divorcement of Pipe Lines," a paper read by Charles I. Francis, Houston, Texas, was a feature at the July 17 session. After discussing both sides of the divorcement problem, he concluded that the sum total direct results of a pipe line divorcement law would be to disrupt a tremendous investment in an established business, destroy recognized benefits under the pipe line system as now operated, and generally disrupt development in many districts.

The paper read by J. Howard Marshall was well received, and proved one of the most interesting features of the meeting. He stripped the veneer from much of the propaganda now being broadcast, and explained that forensic warfare between two competing catch phrases like "Federal Control" and "Interstate Compacts" most certainly fall as far short of dealing with the stern realities of the present oil situation as some of the rules and regulations of the late lamented Code of Fair Competition for the petroleum industry.

NEW COMPANY

Is organized by Standard of Indiana in southwest

CHICAGO.

PAN American Petroleum and Transport Company announced July 17 the organization of a producing subsidiary to be known as Pan American Production Company. The company has been incorporated in Delaware.

The new subsidiary will engage in producing crude oil in the southwest. Its output will be supplied to the refinery of the Pan American Refining Corporation at Texas City, whose products are marketed by American Oil Company.

Headquarters of the new organization will be at Houston. E. R. Turner, formerly with Continental Oil Company, has been engaged as manager.

CUT TEXAS OUTPUT

August allowable reduced seven percent under July

AUSTIN.

A HORIZONTAL cut estimated at seven percent was made in the allowable production of Texas flush oil fields Friday by the Railroad Commission. The cut was approximately 80,573 barrels from a current estimated allowable of 1,082,000 barrels to an allowable as of July 22 of 1,001,427 barrels.

The new East Texas factor is three percent and the estimated allowable as of Monday morning 433,000 barrels.

Cuts were made in every proration division except Moore County, left at its current allowable of 1500 barrels.

The following table shows the changes by district:

District—	July 1	July 22	Decr.
East Texas	462,094	433,000	29,094
Panhandle	58,800	52,800	6,000
Moore County	1,500	1,500	.....
North Texas	58,500	56,000	2,500
Foard County	900	837	63
West Central	51,936	49,991	1,945
West Texas	132,528	126,164	6,364
East Central	50,887	47,378	3,509
Southwest Texas	93,640	90,487	3,153
Gulf Coast	152,116	143,270	8,846

Issuing the new state-wide oil proration order, Chairman Ernest O. Thompson announced important changes in policy by the Railroad Commission.

1. The new order will be effective next Monday, July 22, rather than giving operators until the first of the coming month.

2. The commission will immediately make a survey of all Texas storage, thieving every tank starting at the Gulf Coast and keep storage records hereafter, to determine just how much oil is being taken out of storage and who is taking it.

3. Discovery wells have been given a liberal allowance in all prior orders. Because this liberality has seemingly contributed to excess storage of Texas oil, discovery wells hereafter will be given the same allowable as other wells of like character in the area.

4. In Southwest Texas, where an excess supply of Miocando crude is complained of, the yardstick for proration will be the top allowable of North Government wells—40 barrels top.

"We feel that the people who have been taking oil out of storage should stop it," said Thompson. "What's the use of the Railroad Commission trying to cooperate with the industry, trying to keep the supply within the demand, when some companies insist upon excessive withdrawals and excessive imports?

"We are going to find out whether there are excessive withdrawals and we shall consider those companies guilty of bad faith."

CODE PROCEDURE

For voluntary pacts is outlined by commission

WASHINGTON, D. C.

PROCEDURE for the negotiation of trade agreements was made public July 15 by the Federal Trade Commission, following a survey which showed that more than 170 industries thus far have expressed interest in such compacts.

Decision by the Administration to turn over to the commission the entire task of negotiating the voluntary codes provided for under the revised recovery act, without any requirement for the observance of minimum wages and maximum hours except where provisions suspending the anti-trust laws are sought, is said to have increased materially industry interest in the project and to have brought in queries from trades which would not have participated were they to be required to accept labor provisions.

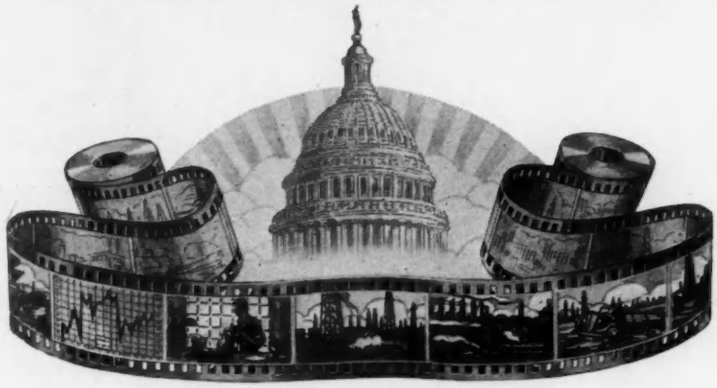
Pointing out that before it can authorize a trade practice conference it must first be satisfied that the holding of such a conference is desirable and to the best interests of the industry and public, the commission has announced that an application in the form of a petition or informal communication must be filed, which certain information is given.

This information should include a brief description of the business for which the conference is intended, the number of units in the industry, number of employes, products manufactured or commodities distributed, annual volume of production, volume of sales and capitalization of the industry.

The authority of the person making the application should be shown, and if filed by a trade association executive the petition should be accompanied by a resolution showing the action of the association and a statement of the percentage of the entire industry represented by the association membership, either on the basis of volume of business or from the standpoint of the number in the industry, or both. If the application is filed by an unorganized group, the percentage of the entire industry represented by the group should be shown.

The application should state whether the conference is intended for all branches of the industry or is to be limited to a particular branch or branches, and should set forth any unfair methods of competition, trade abuses or unethical practices in the industry which it is intended to correct.

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by JACK LOGAN, Associate Editor

IN the panorama that unfolded for the oil industry last week there were scenes sufficiently numerous and varied to furnish something of interest for practically every observer. In rapid succession came important developments and information concerning such matters as governmental affairs, oil company earnings, the business outlook, oil market trends, oil control.

Tax Plan Protested

Congress is expected to remain in session at least until September 1. There is strong pressure for action this session on the President's proposal to raise taxes on inheritances and large individual and corporation incomes. Oil company incomes would be affected.

The House Ways and Means Committee, which will draw up such a bill, was debating the proposal behind closed doors last week, following open hearings the week before. Two powerful national associations of business men have sounded a war cry against the contemplated idea of graduated corporation income taxes, instead of the present flat rate taxes. They assert the graduated tax would penalize efficiency and be unfair to companies with larger capitalization. The lawmakers are expected to be flooded by protests from business men and stockholders. But many of them may be disposed to discount the protests, with their eyes on getting votes from among the labor and agricultural elements.

Pension Plan Debated

Congress last week put some finishing touches, but not the final stamp of approval, on the social security bill, which is generally disapproved by industrial leaders, including some oil officials, as unsound, dangerous, and likely to retard recovery. The only matter remaining to be settled, following conference between the two chambers, is the Senate amendment to permit continuance of existing private annuity plans that are as liberal as the proposed government tax-supported plan. House leaders hope the Senate will agree to drop its proposed amendment.

This plan, aimed at relieving unemployment and old age insecurity, will involve heavy taxation. Workers will have their pay checks reduced by deductions for the taxes. Employers will have to match those payments under a part of the program, and raise additional tax money under another part of the program, all levies to represent taxes on payrolls.

Buying Power of Farmers in Jeopardy

Industry appeared to regard complacently the appeals court decision against the Agricultural Adjustment Act at Boston last week, just as it had seemed cheered, despite some misgivings, by the Supreme Court decision against NRA.

If the Supreme Court upholds the appeals court there is in prospect cessation of the government benefits to farmers, supported by the processing taxes. Elimination of the payments would cut the national farm income by one-seventh. There is, naturally, considerable apprehension within industry over this prospect of lower buying power for farmers. But on the other hand, there is much exultation over the possibility of further crumbling of the New Deal program of regulating industry and business by governmental bureaus.

Although farmers are reported generally resigned to losing the payments, the AAA case cannot be decided by the Supreme Court until October. Meanwhile, Congress is working on amendments to the law, designed to assure its constitutionality.

Bearing of Decisions on Oil Control

From the oil industry's viewpoint, the AAA decision was significant, possibly, not only because of its economic implications, but also because of its bearing on existing and proposed oil control laws. For the legal snags encountered by NRA and AAA are also prospective snags for federal oil control, existing or contemplated, wanted or unwanted.

In the AAA decision, as in the NRA downfall,

there was court objection to delegation of power by Congress to the executive branch of the government. In the AAA case there was also objection to the attempt of Congress to control agricultural production under the guise of regulating commerce. Both of these objections might possibly be found also, in court review of present and prospective oil control laws.

In fact, the delegation-of-power objection already has been raised against the Connally Act, a pillar in the present oil control program. The complainants, in federal district court in East Texas, argued that Congress has exceeded its authority in delegating to state governments the power to say how much oil may go into interstate commerce. If enacted, any such measure as the Thomas bill apparently would also be fought in the courts on the contentions of unwarranted delegation of power, and of unconstitutional control of oil production by Congress.

New Oil Law Contemplated

The Thomas bill has met such strong opposition that it is conceded but little chance of passage. But the Cole sub-committee of the House interstate commerce committee is considering recommending a new federal oil control bill. The committee last year conducted an oil investigation, and then favored interstate compacts over the Thomas type control.

Connally Act Validity

By many the validity of the Connally Act seems to be accepted with but little doubt. The law does not appear quite so air tight, however, in view of the above discussed court opinions on delegation of power, and in view of a situation that has arisen lately in East Texas.

Texas authorities have been confiscating oil produced in violation of the state's laws. The state has been selling such oil at public auction. The state authorities then permit the oil, purged of its sins, to go to market. But when it reaches the state's borders, federal authorities, acting under the Connally Act, refuse to permit the oil to move interstate. With them, it's still oil produced in violation of the state's laws, and thus ineligible for interstate movement.

Texas in Role of Hot Oil Merchant

So far as the federals are concerned, the oil can stand in tank cars or storage tanks on the state line or coast until it evaporates in the Texas air. Yet one of the avowed purposes of the Connally Act is to prevent waste of oil. So far as the federal agents are concerned, the oil cannot go into commerce, because technicalities bar it therefrom. Yet another of the avowed purposes of the Connally Act is to promote free and open flow of commerce. So far as the federal government is concerned, the oil cannot enter commerce because it is contraband oil. Yet it's stuff that was sold openly by a state government. So far as the federal government is concerned, the state has fallen unfortunately into the role of hot oil merchant. Yet the state is seeking to stamp out private hot oil traffic, and the federal government is helping the state in that endeavor.

From East Texas last week went requests that Congress amend the Connally law to permit the confiscated oil to be shipped. Senator Connally of Texas objected that an amendment could not be enacted, superseding the law itself.

It is a crazy situation, and the federal men had ample reason when they went last week to the Attorney General for advice in the matter. Moreover, anti-prorationists are likely to try to show the courts it's a crazy law that will give rise to such a situation.

Exit P & C Committee

The oil code planning and coordination committee representing the industry, quietly folded up its tent at Washington last week and disbanded, amid some lamentations that the industry was left unrepresented in the capital at a critical time. The committee members have informed Secretary Ickes of willingness to offer counsel to government authorities, as he requested. But they would prefer that a new committee be formed, since the oil code is dead. Presumably, they felt it was time to bury the dead.

Oil Marketing Code

No further progress has been reported on the marketing code that oil company marketing heads have drawn up tentatively. They plan to seek its approval by the industry, then by the Federal Trade Commission, as a revision of the similar code used in several pre-NRA years.

Oil Earnings Best Since 1930

Oil company earnings reported for the first six months of 1935 are beginning to appear. There is some substantiation of expectations that the earnings will be generally better than last year, and thus the best for five years. Union Oil Company of California showed profit of $2,950,000 the first six months this year, compared with $300,000 in the similar period last year. Gains over last year are predicted also for Pure Oil Company, Phillips Petroleum Company, Continental Oil Company. On the other hand, a substantial decline in earnings is indicated for Atlantic Refining Company.

Markets Currently Soft

There has been some softening of the oil markets lately outside California, while the West Coast refinery and retail prices have continued depressed, with crude prices in danger.

The California situation is ominous, although crude prices are holding, as producers achieve fair success in curbing output under voluntary proration.

The softening of the Mid-Continent tank car market is attributed to increased refinery runs, due to lifting of code restrictions and to reopening of closed plants lately under the lure of attractive tank car prices. Retail prices and crude postings outside California are fairly steady, although disturbed by the Mid-Continent tank car market softness. In Pennsylvania, crude prices were cut 10 cents a barrel last week, after having been reduced 15 cents three weeks previously.

Prices Remain Comparatively Favorable

While the markets are thus generally soft, they are nevertheless comparatively favorable. Except in Pennsylvania and South Texas, crude prices continue unchanged at the relatively high levels of the past two years. Product prices at Mid-Continent refineries are the highest for 1935, about as in September, 1933, and nearly up to levels of late 1930, being therefore the best for five years. Retail prices are similarly favorable.

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Divorcement

OF PIPE LINES WOULD HAVE BUT FEW ADVANTAGES AND MANY EVILS

By CHARLES I. FRANCIS*

Extracts from address before Mineral Section of American Bar Association 58th Annual Meeting

THE proposal to divorce the ownership of transportation facilities for petroleum and its products from the production, refining and marketing thereof can no longer be answered by the oft-repeated remark that "there is no substantial demand for such a serious reversal of public policy." Numerous oil associations whose limited memberships are confined to individuals and representatives of non-integrated companies, some outstanding independent producers and refiners, a few members of state regulatory tribunals, numerous state and national political leaders, and quite a few disinterested students of the problem, have urged that such action, state and national, be taken as will insure a complete separation of oil transportation from the ownership of producing, refining, and marketing facilities. Momentum to this agitation has been given, publicly and privately, by railroad executives anxious to control a larger share of this transportation business than, at present, is afforded them.

Congressional Power

The Congress of the United States is expressly authorized by Section Eight of the Constitution "to regulate commerce * * * among the several states" and "to make all laws which shall be necessary and proper" for executing this power. The Hepburn Act, passed in 1906, represents the first attempt by Congress to apply this power to interstate pipe lines. Section One of the Interstate Commerce Act was amended by the Hepburn Act so as to make the provision of the Act apply to any person or corporation engaged in the transportation of oil as a common carrier by means of pipe lines, or partly by pipe lines and partly by railroad, or partly by pipe lines and partly by water, from one state to another or to any foreign country.

Undoubtedly, the Interstate Commerce Commission is vested with full power and authority to regulate all interstate carriers of petroleum and its products. It is authorized, in the broadest sense, to prevent discrimination between shippers and to provide for fair and reasonable tariff regulations and rates. It is now engaged in making the first real comprehensive pipe line survey and valuation that has ever been attempted, and will undoubtedly prescribe a schedule of rates and tariff provisions analogous to that applicable to railroads. In view of the fact that, in the past, rate schedules have been maintained that could not be justified from the standpoint of investment, it would seem that such action of the commission is timely. The legality of its subsequent orders may be attacked, as has been the case with transporters by rail, but the authority of the commission to prescribe just and fair regulation for pipe line common carriers can scarcely be questioned.

Furthermore, the general power of the National and State government to levy gross receipt taxes, intangible asset taxes, excess profit taxes and the like—which power has been exerted almost to the limit in the last few years, is an additional assurance that such carriers cannot make more profits than the character of the business requires in order to attract investment funds.

It may be considered as settled that the power of Congress is ample, if properly exercised, to accomplish a practical divorcement of the interstate transportation of oil from the business of producing, refining and marketing crude petroleum and its products. I realize that able attorneys have asserted a contrary view, but I am not able to concur in the general conclusions which they have reached from a consideration of cases which I do not deem applicable. Of course, the Congress does not have jurisdiction over the pipe line holding companies because of stock ownership alone, but such control can be exerted, in my opinion, as an incident to its authority to regulate the interstate transportation of oil.

State Authority

Moreover, there exists in the several states legislative power to accomplish virtually all that the advocates of divorcement desire. I do not mean that some of the concrete proposals, as heretofore drafted, are constitutional, but I do mean to state that the several legislatures of the main oil producing states have the power, if properly exercised, to effect the objects desired by the advocates of divorcement.

Generally speaking, the legislatures of the various states have the power to forbid the purchase of stocks of other corporations, and it has been held that the statutes prohibiting one corporation from taking or holding stock of another corporation are merely declaratory of the common law. Thus, in some states, statutes forbid railroad corporations, and, under prescribed conditions, coal corporations, to purchase the stock in any other corporation, and these statutes have been declared valid. State statutes forbidding a corporation from holding stock of "corporations engaged in the same kind of business" have been sustained.

It seems clear that, generaly speaking, there are no insuperable legal obstacles, either state or federal, to the accomplishment of the purposes desired by those who seek a divorcement of pipe line operations from the other three divisions of the oil industry.

Three Fallacious Assumptions

The Commerce clause of the United States Constitution and the police power of the several states would seem adequate, under statutes properly drawn, to accomplish such a purpose. However, the adoption of such a policy, while, no doubt, within the realm of reasonable debate, seems to me clearly unwise. It is a strange method of reasoning by which the advocates of this policy justify their conclusion; and, in my opinion, their error arises from three fallacious assumptions:

I

The advocates of this program are prone to compare the function of railroads with that of oil pipe lines, and, assuming the analogy, conclude that the same logic which required the application of the Commodities Clause of the Hepburn Act to railroads requires a like application thereof to pipe lines. The only objection to such a line of reasoning is that the analogy does not exist in the first place. Oil pipe lines are essentially plant facilities. The transportation of oil, unlike nearly all other freight, involves the movement, one way only, of a commodity which requires special facilities for handling, from a source being constantly depleted. The facilities required for the transportation are useless for any other freight, and as a general rule, the construction and operation of a pipe line system involve such risk that relatively few, if any, companies would undertake the venture unless the line was necessary for the successful operation of a modern refinery, which had a stabilized market outlet. The efficient operation of a refinery, under present conditions existing in the oil business, is almost impossible unless this refinery is served by a pipe line designed and operated to keep an adequate and contant supply of available oil of the particular grade required in the refinery operations. A non-integrated pipe line would in most cases be an unprofitable investment and certainly could not be operated to render to particular refineries the type of service required for the successful conduct of refinery operations. Whatever may be theoretically argued, the fact remains that, as the oil industry is presently conducted, a pipe line is a necessary plant facility and bears very little resemblance to the purpose and function of common carrier railroads. The public carrier business of an oil pipe line is wholly incidental to its utilization as a plant facility.

II

The advocates of oil pipe line divorcement generally make a second fundamentally erroneous assumption as the basis of their argument: that a monopoly exists in the oil business and pipe line ownership is the foundation thereof. "Monopoly", as that term is used by those predicating their argument for pipe line divorcement on this assumed condition, means power to limit production, fix prices or restrain competition. If such a condition existed, the powers of State and Federal authorities under existing anti-trust law are ample to supply a remedy. Pipe line divorcement would not be the cure. However, the fact of the matter is that no such monopoly exists. The idea is a pure myth. It is an old "bugaboo" conjured out of the past by those either unwilling to make or consider impartial appraisals, or incompetent to judge of well established facts.

Anyone at all familiar with present conditions knows that in the oil industry as today conducted there is the keenest sort of competition in all four branches. Examine the oil trunk line map of the United States, study the intensive development and diversified ownership of proven oil fields and the record of "wildcat" drilling permits, consider the relentless fight for refinery outlet and the ever waging battle for the retail market, a filling station on every corner, and surely anyone, not dominated by unreason-

[*Continued on page 43*]

*Member of the law firm of Vinson, Elkins, Sweeton & Weems, 1109 Esperson Building, Houston, Texas; formerly Special Assistant to the Attorney General of the United States, assigned to petroleum regulations in the East Texas oil field; Special Counsel for the American Petroleum Institute in the Texas Anti-Trust cases.

MEN IN THE INDUSTRY'S NEWS

T. W. BARRINGTON, formerly purchasing agent in Seattle, Washington, for Standard Oil Company of California, is leaving shortly for London where he will be located with Bahrein Petroleum Company.

L. B. "PINKY" HERRING, consulting geologist of Tyler, Texas, has been appointed head of the geological department of Rancho Oil Company, Dallas, and will establish headquarters at Beeville, Texas. The company plans to enlarge its scope of operations in Southwest Texas, with the latter point serving as the geographical center. Herring was a member of the geological staff of Marland Oil Company and after its merger became associated with A. R. McElreath and F. W. Suggett, Fort Worth operators, for several years.

G. ALLEN REID, from Tide Water Oil Company's New York offices was in Houston during the past week after an extensive business trip through the Mid-Continent.

HAMILTON MICHELSON of Miami, Florida, president of the Michelson Groves, is now spending most of his time in Cuba at his company's naphtha field.

R. P. SANDERS has been appointed field foreman in charge of operations at Tomball and Humble, Texas, for Rio Bravo Oil Company. The appointment was effective July 16. Mr. Sanders joined the company as rig helper in 1926, and has served in various capacities since that time.

J. G. WILBERGEN and P. W. Mazurel of B.P.M., in Sumatra, together with Bernard Bonger of Carribean Petroleum Company, Maracaibo, Venezuela, have arrived in California where they are making a study of field methods and equipment.

A. L. MARSHALL, J. O. Dolby and D. G. Dunn have organized a company to engage in rig building contracting work in Louisiana coastal territory. The concern is known as Southern Rig Construction Company, with offices in Lake Charles, La. At present it is engaged on a job in the Iowa oil field.

E. L. GREEN, who has been deputy supervisor in the Texas Panhandle for Texas Railroad Commission, has been transferred to Houston, where he will have charge of that district's oil and gas division. K. I. Dunn succeeds Mr. Green in the Panhandle. G. H. Reiger, who formerly was at Houston, now heads the newly established district office at Beaumont.

DR. ARTHUR WADE, well known in international geological circles, has returned to the field again in Australia after a short sojourn in Perth, Western Australia, with Freney Kimberley Oil Company. Dr. Wade's original geologizing in the virgin areas of Australia has won considerable recognition abroad.

S. T. CHILDRESS IS APPOINTED VICE PRESIDENT AND GENERAL MANAGER OF RIO BRAVO OIL COMPANY

HE COMMENCED HIS OIL CAREER IN THE OLD GLENPOOL FIELD OF OKLAHOMA IN 1908

S. T. CHILDRESS

EFFECTIVE July 16, S. T. Childress became vice president and general manager of Rio Bravo Oil Company with headquarters in Houston. He succeeds James Hutcheson, who died June 10. Mr. Childress has been in the oil business a long time. His first connection with the industry was in 1908, when he became a tool dresser for the then recently organized McMan Oil Company in Glenpool pool, near Keifer, Oklahoma, and which field became the first 100,000-barrel a day producing field in the world. In 1910, he came to the Gulf Coast of Texas and for a number of years served in the capacity of a driller for several companies. He first joined the Southern Pacific Railroad oil companies in 1926, when he became production superintendent for Associated Oil Company in Southwest Texas. In 1927, after Tide Water Oil Company and Associated Oil Company were merged in 1926, Mr. Childress became affiliated with Rio Bravo Oil Company, another Southern Pacific subsidiary. With this company he served successively as production foreman, utility foreman, assistant superintendent and division superintendent. He was serving in the latter capacity when promoted to his new position of vice president and general manager. Mr. Childress is married, has two husky boys and one daughter. His hobbies are golf and baseball.

W. M. THORNBURG, superintendent of British Deep Drilling Company, Yenang Yaung, Upper Burma, recently arrived in California to spend several months.

MARK KLEEDEN, Oklahoma City oil man, was elected president of Black Gold Petroleum Company at the annual meeting of stockholders held in Oklahoma City on Monday, July 15. Kleeden succeeds R. A. McArthur who resigned two months ago. Other officers are: M. R. Medrith, Wabash, Ind., vice president, C. E. Beck, Arkansas City, Kansas, vice president, J. K. Gaylord, Oklahoma City, vice president, and T. J. Ruddy, New York City, secretary-treasurer.

HUGH STEVENS, Kansas superintendent for Olson Drilling Company, is reported greatly improved in a Hutchinson, Kansas, hospital. He was severely injured several weeks ago when his car overturned near there.

J. O. BEACH, graduate of the University of Oklahoma and for a number of years with the Oklahoma Geological Survey, has been named office assistant with the reorganization of the survey under Robert H. Dott.

S. A. GERMANY, Tyler, scout in the East Texas district for Shell Petroleum Corporation, is the father of an eight-pound baby boy.

K. UCHIDA, chief geologist of Nippon Oil Company, who has been in California for some time, is planning to return to Japan shortly.

DR. E. H. SELLARDS, director of the bureau of economic geology at the University of Texas, at Austin, was the speaker at the Houston Geological Society's weekly meeting July 18, discussing a structural map of Texas.

JOE ZABA, petroleum engineer, Rio Bravo Oil Company, Houston, was recently married. After a short trip to Corpus Christi he was back on his job, planning to take a honeymoon later.

W. W. BRYANT, drilling superintendent of United British Oilfields, with headquarters at Port Fortin, Trinidad, who has been in California for some time, will leave August 1 for Houston for a 30-day stay, prior to returning home to Trinidad.

W. E. DRYER, technical engineer for Westinghouse Electric Company, and E. L. Hagar, Hanlon-Waters, Inc., were speakers at the July meeting of the Kansas Chapter of the American Petroleum Institute, held in Wichita on Friday eve-

ning, July 19. Dryer, who has spent considerable time in developing and perfecting Diesel-electric rotary rigs, discussed that subject and Hagar described new equipment for the gauging of oil production.

CHARLES WHITE has been transferred from Tide Water-Texas Seaboard Oil Company's offices to the Midland district for Tide Water Oil Company as scout.

PETER F. EARDLEY, of Eardley & Company, hydraulic engineers, with headquarters in Shanghai, China, is in California

J. S. BONNER, retired oil man of Houston, has been named works progress administration director for the Sixth District of Texas. He will have headquarters in Houston. Mr. Bonner is a vice president of Humble Oil & Refining Company, and has a number of other business interests. He entered the oil business in 1896 in Houston, being an employe of the Joe W. Davis Oil Company. Later he was vice president of Southwestern Oil Company, which succeeded the Davis firm. He organized the Bonner Oil Company in 1903, and continued to direct it until 1919, when control was purchased by Humble Oil & Refining Company and he became a vice president of the latter concern.

E. R. SMITH, of Lane-Wells Company, Houston, and J. C. Karcher, of Geophysical Service, Inc., Dallas, were the principal speakers at the regular monthly meeting of the San Antonio Geological Society in the Petroleum Club, San Antonio, July 15. They discussed the application of the gun perforator, and electrical logging device attached to rotary drilling equipment.

LEONARD GOW, director of Burmah Oil Company, is convalescing from a serious illness at his home in Scotland.

GEORGE TYSON, of the firm Townsend, Athony & Tyson, of the New York Stock Exchange, with offices in Boston, Mass., are in Houston, watching the R. A. Mason's Anahuac extension test come in. Mr. Tyson holds a quarter interest in the test. Along with Mr. Tyson, Redinton Fiske, private banker of Boston also is in Houston.

CHARLES NOBLE, chief scout for Superior Oil Producing Company, Houston, is convalescing in local hospital.

H. F. SMILEY, consulting geologist and engineer, has transferred headquarters from Wichita Falls to Fort Worth, where offices have been established on the 14th floor of the Fort Worth National Bank building.

R. W. NORTON, independent operator, San Antonio, has spent the past several days in Rodessa field, Northern Louisiana. He holds the oil rights under approximately 25,000 acres in the field and surrounding territory, where United Gas Public Service Company recently completed a large producer.

CHARLES M. BOSTON, president, and H. M. Pickering, director of Bostex Oil Corporation, Johnstown, Pa., were recent San Antonio visitors. The company has holdings in South Texas.

B. G. DOUGLAS, of San Antonio, was killed on a drilling rig in Bee County recently. He is a nephew of L. A. Douglas, independent operator.

H. D. McCRACKEN, vice-president in charge of the Fort Worth district office of Illinois Pipe Line Company, departed last week on a vacation trip that will include a visit to a well-stocked lake in the Ozark Mountains of Arkansas, thus enabling him to persue an old hobby.

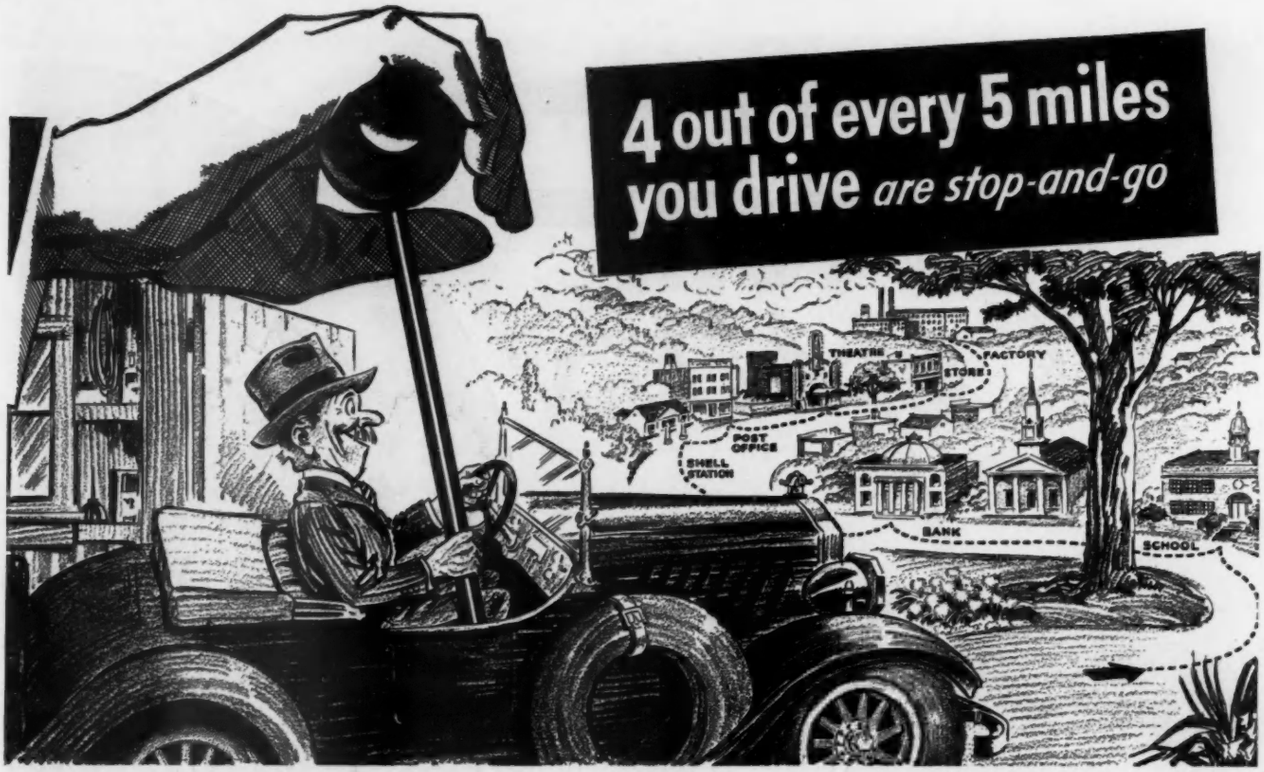
J. P. JOHNSTON, 48, Fort Worth operator and actively identified with early development in West Texas, was fatally stricken with a heart attack July 13. He is survived by his wife and three daughters. Funeral services were held July 15, with interment at Fort Worth.

SAMUEL SMITH. WHO HELPED DRILL COLONEL DRAKE'S FAMOUS OIL DISCOVERY WELL, DIES

AS A MEMBER OF DRAKE'S CREW HE WAS FIRST TO DISCOVER THERE WAS OIL IN THE HOLE

Samuel Smith in his work shop at Titusville in 1927

WITH the death in Titusville, Pennsylvania, July 14 of Samuel Smith, "Finis" was written to the first chapter of the history of the oil industry in the United States of America. Edwin L. Drake, discoverer of oil in the United States, died as a ward of the state, a saddened, bitter, morose man. Bissell and Evelth, two other members of the original crew of the Drake well, have been dead these many years. Dr. Brewer and Watson both are gone. R. D. Fletcher and Peter Wilson, Pennsylvania merchants whose purse strings were loosened when lack of funds threatened ruin to the Drake well project also rest beneath the sod. Until last week Samuel Smith represented the only survivor of that history-making crew. He lived far beyond the allotted three score and ten; four score and eleven years was his span of life. He was the son of William Smith, the blacksmith of Tarentum, Pennsylvania, who moved to Titusville to make the tools for and help superintend the drilling of the Drake well. It was as a youth of 16 that he first participated as water boy and general flunky on the Drake well. It was Samuel Smith who looked down the pipe of that well when a depth of 69½ feet had been reached, and who was the first to call his father's attention to the yellow foam on top of the fluid in the hole. When the tools were pulled out, a flow of greenish yellow oil resulted. This was in August, 1859, and marked the beginning of the oil industry. Smith never owned any oil property. "I pumped the Drake well for three years," he often stated. "But the work was dirty and I didn't care for it. I wanted to be a mechanic or carpenter. So I have spent most of my life at carpenter work." Smith lived to witness three wars, in one of which he served. He watched the phenomenal growth of the oil industry. He witnessed the steady change in drilling tools and methods from the basic apparatus and methods of 1859.



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Stage Separation

APPLICATION TO THE PRODUCTION OF CRUDE OIL AND GAS MIXTURES

By R. L. HUNTINGTON, School of Petroleum Engineering, University of Oklahoma;
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PART I

Its Importance to the Oil Producer

DEEPER drilling during the past decade has resulted in the discovery of oil and gas producing wells having much higher formation pressures than those of the shallower fields common to the early life of the petroleum industry. In these lower formations, crude oils contain high percentages of gases in solution. For example, in the Oklahoma City field each barrel of original bottom-hole fluid consisted of three fourths of a barrel of residual or actual crude oil and one fourth of a barrel of liquefied gases. When these gases came out of solution at atmospheric pressure they produced approximately 750 to 850 cubic feet for each barrel of residual crude oil. In other words each cubic foot of liquefied gases yielded between 450 to 500 cubic feet of gas under standard conditions. Ben E. Lindsly[2] has contributed much toward the knowledge of the physical state of crude oil-gas reservoirs, through the analyses of bottom-hole fluid samples. This information is quite essential in the design of stage separation systems for the production of crude oil from mixtures of crude oil, liquefied gas, and gas coming from the underground reservoir.

Many oil producers now realize the economy of conserving the energy stored up in these dissolved gases, and are therefore striving to produce each barrel of crude oil with the minimum gas-oil ratio. To accomplish these results, various methods have been devised. The bottom-hole choke has long been recognized as an efficient device for obtaining the maximum amount of work from the expansion of each cubic foot of gas. However, quite frequently a large part of the available pressure from the reservoir is desired at the surface to make it possible to transport the gas through high pressure gasoline plants and over certain distances without the installation of gas compressors. This alternative calls for stage separation of the crude oil-gas mixtures.

Multi-stage separation of oil and gas may be applied to reduce compression costs. This should be practical on certain leases where a few wells still will flow naturally against considerable back-pressure while others are being produced by gas-lift or by pressure maintenance. Since the energy required to compress gas is approximately proportional to the logarithm of the required pressure,[4] extraneous gas compressed from a high-stage separator instead of a separator at atmospheric pressure will conserve horsepower energy requirements and also provide a drier gas at the compressor intake.

Where the gas-oil ratios are exceptionally high the advantages of stage separation are far more marked than with systems handling mixtures with low gas-oil ratios. That such has proved to be the case in actual practice is verified by the remarkably satisfactory results that have been obtained in the Kettleman Hills field, where as many as three or four stages have been connected in series flow. Wherever 400 to 500 pounds per square inch back-pressure is available on the first stage, the residual gas may be sufficiently low in natural gasoline fractions to warrant the delivery of the gas directly into the main fuel line. The percentages of the butanes and pentanes in the crude oil in equilibrium with the gas determine to a large extent the relative dryness of the gas.

Fundamental Principles Involved

Whenever a mixture of hydrocarbons is subjected to some definite temperature and pressure, one of three different conditions may result:

1. Total vaporization may take place, or in other words the mixture is at or above its dew point, or point of initial condensation.

2. Total condensation may be the result, in which event the mixture is at or below the point at which initial vaporization can take place.

3. Partial vaporization, or partial condensation may occur. This is usually the condition in flowing wells.

The degree to which vaporization or condensation will take place will depend, of course, on the tem-

*Messrs. Fletcher and Warren were undergraduate students at the University of Oklahoma when this material was prepared and it was a part of their undergraduate thesis for 1935.

perature and pressure of the system, as well as the composition of the original mixture. The method by which the vapor is released from the crude oil, also has an effect on the percentage of the material vaporized. Ben E. Lindsly[2] has described three different means of liberating gas from a crude oil-gas mixture which are, in substance, as follows:

1. Flash vaporization occurs in one stage in a continuous flow system under equilibrium conditions at a definite temperature and pressure. This type of operation is an ideal one for refinery operation where the maximum amount of vaporization is desired as the crude flashes into a fractionating column. Likewise, the production of crude oil has occurred in the same manner until a few years ago, when stage separation came into existence.

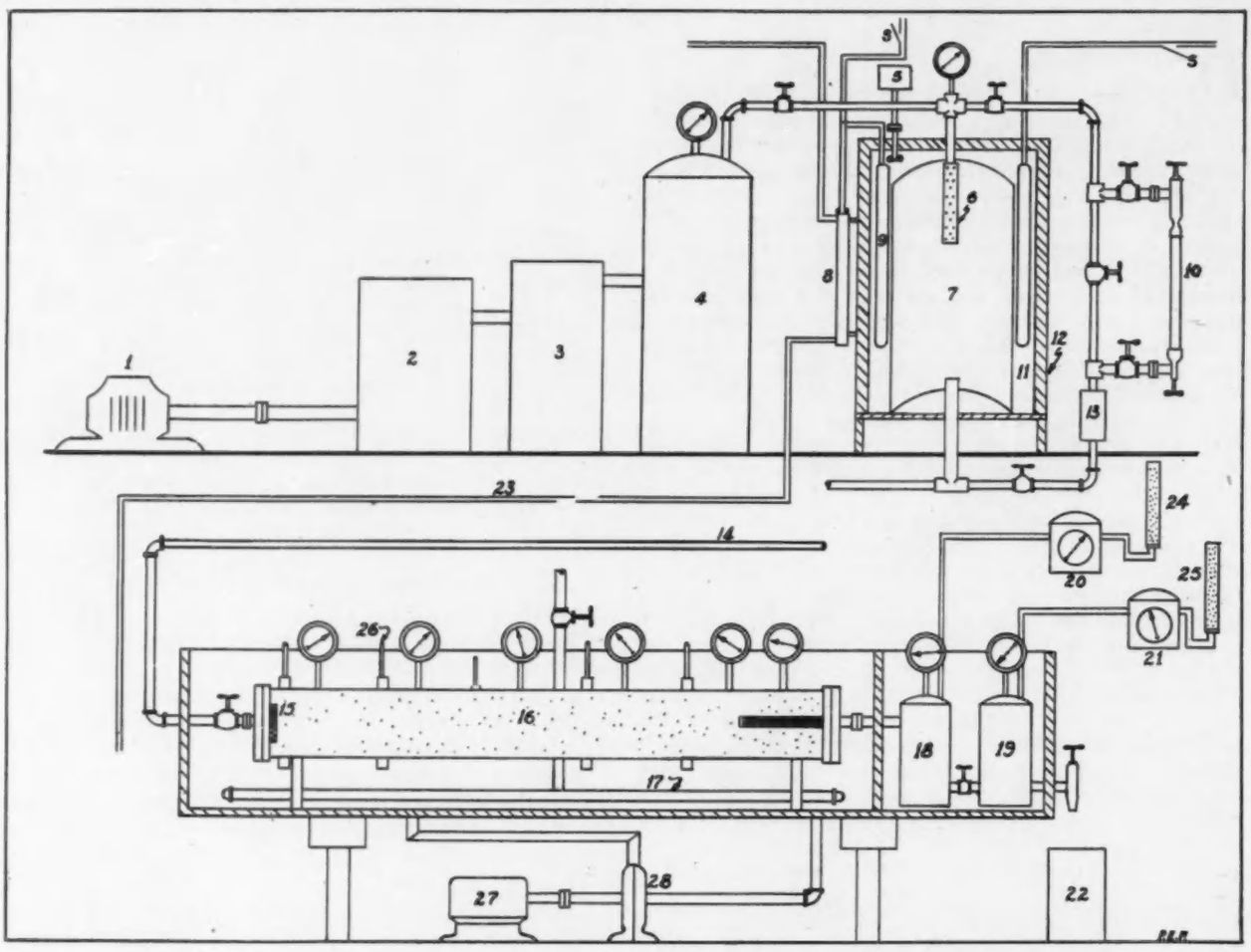
2. Differential vaporization takes place when the vapor is removed from its residual liquid as rapidly as it is evolved. To accomplish vaporization of this type requires a batch process in which either the temperature may gradually increase at constant pressure or the pressure may be slowly decreased at constant temperature. A derivation of the equation for differential vaporization is given by Walker, Lewis and McAdams.[5]

3. A third type of separation is known as differential flash vaporization, in which a mixture of hydrocarbons may be flowed continuously through two or more separators in series. In each separator equilibrium flash vaporization takes place, the gas being removed from the upper section of each separator, while the residual oil flows from the lower section of

FIGURE 1

LEGEND

1. Motor
2. Low-stage compressor
3. High-stage compressor
4. Receiving tank
5. Electric motor-driven agitator
6. Nozzle on oil-input line
7. Saturation tank
8. Water-cooled thermostat and rheostat (Immersion Heater)
9. Immersion Heater (Electric)
10. Sampling device
11. Water bath temperature control
12. Fiber insulation
13. Circulating pump
14. Input oil-line to flow tube
15. Perforated steel plate
16. Flow tube
17. Copper steam coil
18. High pressure separator
19. Low pressure separator
20. Low pressure gas meter
21. High pressure gas meter
22. Drip tank for oil output
23. Input water line for rheostat (for coooling water)
24. Charcoal tube (low pressure gas meter)
25. Charcoal tube (high pressure gas meter)
26. Immersion Heaters (electric)
27. Circulating pump



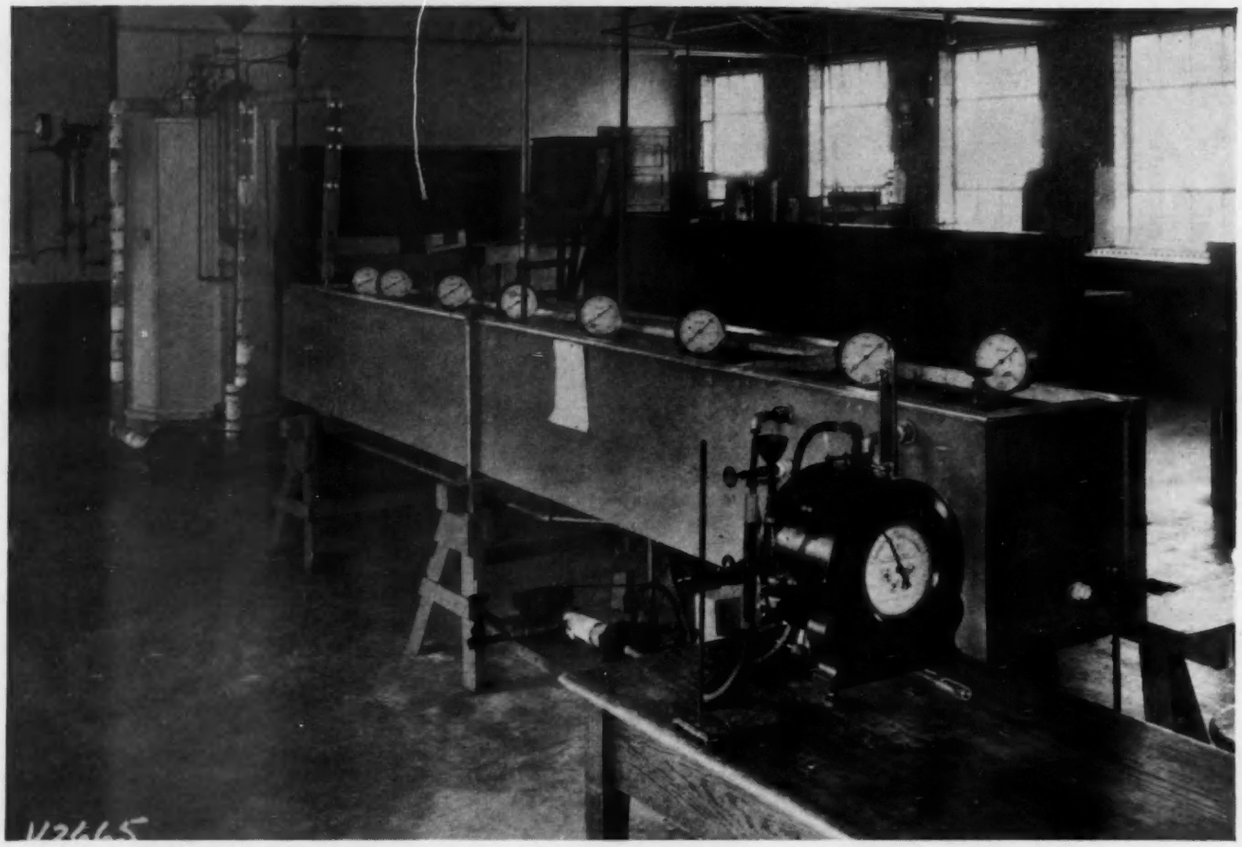


FIGURE 2
Photograph of the laboratory apparatus. Vertical saturation tank in left background. Flow tube and separators are in the horizontal water bath.

each separator into the side of the next separator in the series until it is finally discharged from the last separator into crude oil storage. In this way the producer is able to approach differential vaporization, thereby retaining more of the stable gasoline fractions in the crude oil than would be possible with single-stage flash vaporization. Calculations have been made[3] showing the relative advantages of one, two and three-stage separation. Beyond three stages very few additional advantages are to be gained from the standpoints of gas-oil ratio and A.P.I. gravity of the crude oil.

Experimental Work

The development of stage separation has taken place by the usual empirical methods so frequently used by various industries in the perfecting of a process. It is believed, however, that the "cut and try" method is more costly in the long run, and that a more scientific basis should supplant this guess work. For this reason experimental work was recently started in the Petroleum Engineering Laboratory at the University of Oklahoma in order to study such variables as temperature, pressure, gas-oil ratio, etc., in the separation of gas from crude oil. A diagrammatic sketch of the two separators used in this work is shown in Figure 1. The sand packed flow tube has been described previously by Cloud[1] in his work on the flow of saturated and unsaturated crude oils through porous media. Figure 2 is a photograph of the apparatus.

The first phase of the problem to be studied was that of determining the optimum ratio of pressures between the high- and low-stage separators for temperatures of 100°F., 120°F., and 140°F. Tonkawa crude oil was saturated, under these respective temperatures at 300 pounds per square inch absolute pressure, with a dry natural gas consisting of about 90 percent methane, nine percent ethane and one percent propane. The pressure on the low stage was held at atmospheric pressure, while that of the high stage was varied between 17 pounds and 145 pounds per square inch absolute pressure. The water baths covering the saturation tank, flow tube, and separators were kept within plus or minus 1°F. during each run. The flow of the oil and gas through the separators was controlled by quarter-inch stainless steel needle valves. The gas volume from each separator was measured by positive meters, and the natural gasoline content was determined by means of activated charcoal. The gasoline absorbed by the charcoal was distilled in an Engler flask over mercury.

Discussion of Results

Field Data: The producer is interested primarily in the gravity of his crude oil, since the price per barrel is usually determined by the A.P.I. gravity of the oil. It has been found that two-stage separation of

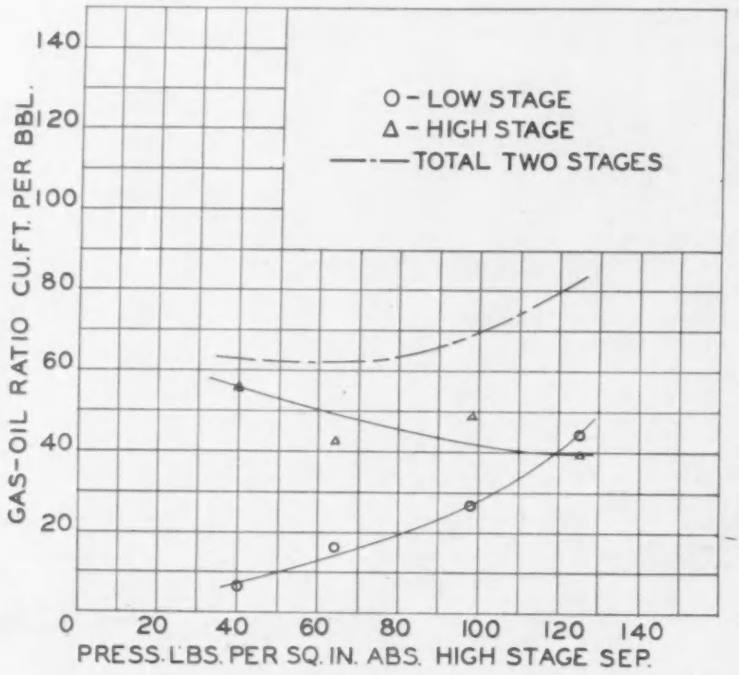


FIGURE 3

Two-stage separation of crude oil-gas mixtures gas-oil ratios vs. pressure on high-pressure separator. Temp. = 100°F. Low stage=14.2 lbs./sq. in. abs.

crude oil in the Lucien, Oklahoma field, with 50 pounds per square inch absolute on the high-stage and 14.2 pounds per square inch absolute on the low-stage, provides a crude oil which has a gravity of 41° A.P.I. Flash vaporization directly from the well to atmospheric storage produces a 40° A.P.I. oil. It is necessary to evaporate 2.6 percent by volume of a barrel of the 41° A.P.I. oil in order to lower its gravity to 40° A.P.I. This represents a loss of 1.09 gallons of 82.5° A.P.I. gravity natural gasoline. If a well in this particular field should not be making as much production as its allowable, it is easily seen that the increase in production would amount to 2.66 percent over and above the amount produced by the flow of oil directly to storage. Evaporation tests on the 41° and 40° A.P.I. oils show that the rate of shrinkage in volume amounts to the same for each oil, indicating that the retention of the 1.09 gallons of 82.5° A.P.I. natural gasoline by the 41° A.P.I. oil did not make this higher gravity crude any more volatile than the 40° A.P.I. crude, which no doubt retained more of the butanes and lighter hydrocarbons. It can be shown by calculations based on the solubilities of the various hydrocarbons that the single flash caused a retention of higher percentages of the methane and ethane in the crude than with two or more successive flashes. In other words the stage separation results in a certain degree of stabilization of the residual crude oil.

Laboratory Results: The original data are included in Table I. The gas-oil ratios for the runs which were made in the laboratory proved to be so low that the effect on the gravity of the crude oil was not enough to offset experimental errors in recording the gravity. In Figures 3, 4, and 5, the gas-oil ratios are shown for the three temperatures 100° F., 120°F. and 140°F., respectively. The data for the 120°F. runs were more complete, and therefore the curves showing the gas-oil ratios for each stage are much

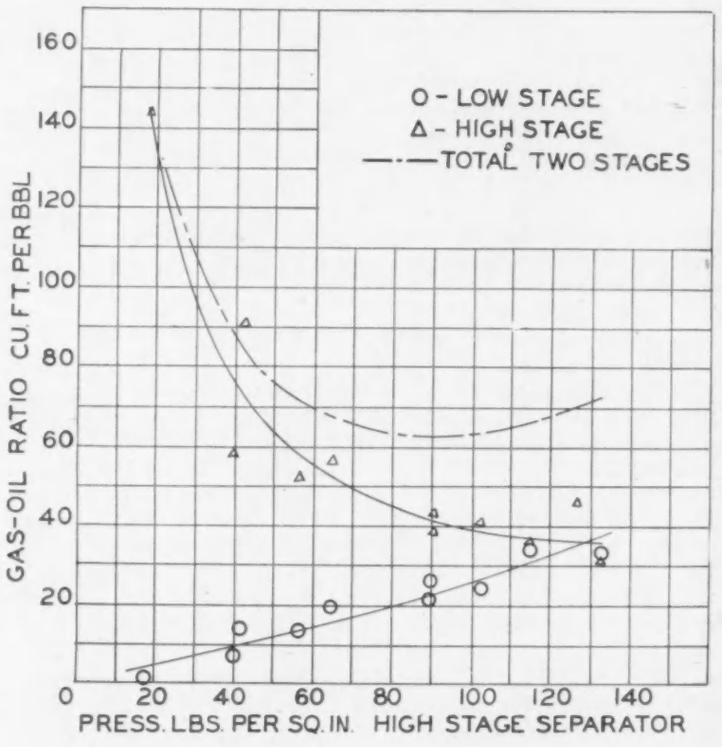


FIGURE 4

Two-stage separation of crude oil-gas mixtures gas-oil ratios vs. pressure on high-stage separator. Temp.=120°F. Low stage =14.2 lbs./sq. in. abs.

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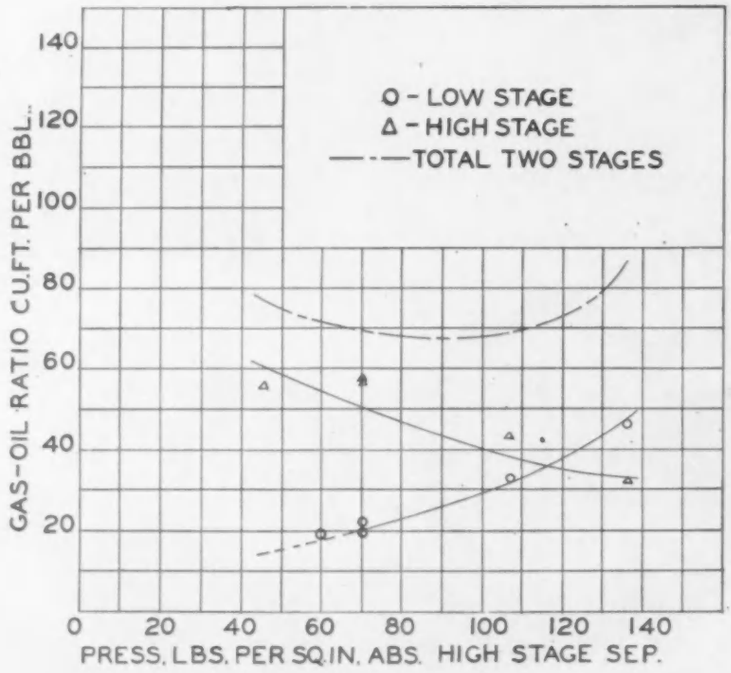

FIGURE 5

Two-stage separation crude oil-gas mixtures gas-oil ratio vs. pressure on high-stage separator. Temp.=140° F. Low stage=14.2 lbs./sq. in. abs.

better defined than the ones for the 100°F. and 140° F. runs. The most interesting conclusion which can be drawn from these curves is that there is an optimum ratio of pressures between the high- and low-stage of about five to one. If the pressure on the high-stage is too high, an excess of gas is held in solution and is in turn released when the oil goes to the low-stage separator. If the pressure on the high-stage is too low, too much gas is vaporized from the high-stage separator and the low-stage separator does not do its share of the work. Matheny et al[3] have shown from calculations on a hypothetical mixture of 25 mol percent methane and 75 mol percent normal hexane that the optimum ratio of pressure is about four to one. Since this ratio is almost the same as the one obtained by the laboratory for a widely different mixture of hydrocarbons having a far lower gas-oil ratio, it might be concluded that four or five to one should prove to be a desirable pressure ratio for various types of field operation where oil is produced in series in high-stage and atmospheric separators.

The second and concluding article of this series will appear in an early issue.

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TABLE 1

Experimental Data—Two Stage Separation Crude Oil-Gas Mixtures

	Separator Pres. Lbs./sq. in. abs. Stage		Gas Vol. cu. ft. 60°F. 14.2# /sq. in. Absolute		Residual Crude Oil		Gas-Oil Ratio Cu. ft./bbl.		Gals. Nat. Gaso. per 1000 cu. ft. of gas		Gals. Nat. Gaso. per bbl. of Residual Crude		
Run No.	High	Low	High	Low	Lbs.	A.P.I.	High	Low	High	Low	High	Low	Both
TEMPERATURE 100° F.													
1	39	14.2	9.73	.835	37.08	....	75.2	6.46	1.35	1.737	.103	.0133	.1163
2	125.7	14.2	1.455	1.875	16.13	41.5	39.0	44.5	.913	2.92	.0356	.130	.1656
3	98.2	14.2	1.45	.795	8.5	41.45	48.7	26.3	.638	4.51	.031	.1188	.1498
4	74.2	14.2	3.244	1.19	21.5	41.4	42.5	15.8	1.915	3.10	.0815	.049	.1305
5	40.2	14.2	4.8	.555	24.25	41.47	56.0	6.45	1.513	4.16	.085	.0268	.1118
TEMPERATURE 120° F.													
6	164.2	14.2	3.01	5.35	40.0	40.47	21.6	38.4	.585	2.88	.01264	.1106	.12324
7	135.2	14.2	3.28	3.22	10.22	....	32.1	31.5	.915	4.55	.02935	.1435	.17285
8	114.2	14.2	2.93	2.55	23.3	41.4	36.0	31.3	.80	2.48	.0288	.0777	.1065
9	89.2	14.2	3.96	1.98	27.5	41.6	42.7	21.4	1.0	3.68	.0427	.07875	.12145
10	64.2	14.2	5.8	1.535	30.3	....	56.5	14.5	1.026	3.64	.0580	.05275	.11075
11	41.0	14.2	2.175	.3575	7.2	....	86.6	14.95	1.84	2.93	.1594	.04375	.20315
12	39.2	14.2	5.89	.724	30.7	41.8	57.0	5.5	1.35	4.35	.0770	.0239	.1009
13	17.2	14.2	1.572	.00145	3.0	....	144.0	....	3.35	....	.482	....	.482
14	102.2	14.2	2.385	1.378	16.98	....	40.3	23.3	.993	5.0	.0401	.1165	.1566
15	56.0	14.2	2.14	.5375	12.3	41.37	50.0	12.55	1.385	5.5	.0693	.0625	.1318
16	126.6	14.2	.774	.917	5.08	....	43.7	51.75	.63	2.218	.0275	.1148	.1423
TEMPERATURE 140° F.													
17	99.2	14.2	1.83	1.142	11.2	40.1	46.8	29.3	.937	2.765	.0439	.0810	.1249
18	64.2	14.2	1.80	.52	13.4	40.4	38.5	11.15	1.737	4.32	.0668	.0496	.1164
19	139.2	14.2	.776	.679	7.6	40.9	29.3	25.7	1.33	6.10	.0390	.1567	.1957
20	135.2	14.2	1.545	2.07	13.58	41.63	32.0	45.0	1.196	5.08	.0382	.2290	.2672
21	106.0	14.2	2.42	1.80	16.78	41.75	42.70	32.4	1.405	4.63	.0600	.1500	.2100
22	69.2	14.2	1.10	.442	5.60	41.9	57.23	21.6	1.68	6.40	.09625	.1383	.2346
23	69.2	14.2	1.01	.237	5.03	41.9	54.00	18.5	1.29	5.86	.0697	.1085	.1782
24	45.2	14.2	.73	....	3.80	....	54.9	....	2.44	....	.1340	.....	.....

Speed and Weight

WHEN CORRECTLY APPLIED HAS DEFINITE RELATIONSHIP WITH DRILLING FOOTAGE

By BRAD MILLS, Associate Editor

SPEED of drill pipe rotation and weight carried on the bit are being studied by the principal producing companies and the leading drilling contractors in an effort to determine the importance of these factors in drilling the various formations in the principal producing districts of the United States. The relationship between correct speeds and weights and drilling progress has been known or suspected for many years, but only limited research has been conducted in many districts that offer the greatest room for improvement.

The results of recent changes in rotating speeds and weights on bits have been very enlightening, and indicate the weakness of many "cut-and-dried" drilling ideas that have been accepted in districts admittedly difficult to drill. It has been especially interesting to note that the accepted trends in many large fields have not proved adaptable in other districts.

Major companies in California and along the Gulf Coast have been attempting to measure and check drilling progress against speed of rotation and weight carried on the bit. Further efforts to determine the wisdom of rapid hole-making have not been conclusive enough to establish rules for drilling speeds in the more troublesome districts. Speed in reaching objective formations is necessary under competitive conditions, but other factors must be considered. The wear-and-tear on equipment and the likelihood of drilling a crooked hole weigh heavily against the few days that may be gained by a speed-at-any-cost program.

Recognition of a straight hole as a permanent asset has done much to force operators to seek the most practical drilling methods. A large number of old fields in California, the Gulf Coast and the Mid-Continent are full of crooked holes. Such fields as Long Beach, Santa Fe Springs and Seminole have given all kinds of trouble in their intermediate and third stages of development because of crooked holes drilled with speed as the principal requirement.

The trend has been toward more rapid rotating speeds and reduced weight on the drilling tools during the past six years. When the driller of 10 years ago needed to make hole rapidly, he merely increased the weight on the bit. It is true that he ordinarily made some adjustment of rotating speed and the volume of mud circulated, but those changes often were not in proportion to the increased weight on the bit. The net result often was a crooked or wandering hole that was influenced by the grinding and mashing action of the bit.

The acceptance of a weight of two to four points on the bit and a rotating speed of 100 to 150 revolutions per minute has been general in many deep districts, but a number of companies are not inclined to follow the practice without more proof of its virtue. Experience has shown that light weight on the bit and rapid rotation of the drill is the best rule, but many formations offer exceptions.

Formation Is a Factor

In two deep Gulf Coast fields, the most effective weight carried on the bit is three points, and the best rotating speed seems to be about 150 revolutions per minute. While drilling through the soft formations that predominate from the surface to 7000 feet, it was possible to make as much as 1000 feet per day with this combination of weight and speed.

The slush pumps play a more important role in steady drilling progress than many operators suspect. In one Louisiana Coast field, the pumps actually wash out the hole as the rapidly rotating bit agitates the formation. While drilling through the softer formations the pumps were so effective that it was difficult to keep as much as three points on the bit. The formations were broken ahead of the bit and were washed out without bad effects. The bit followed, cut a round hole and otherwise functioned normally. The formations were ideal for wall building, making it possible to maintain a rotating speed of 150 revolutions per minute and an average weight of 2½ points on the bit while drilling at the rate of 1200 feet per day.

The relationship between pump pressures and mud volume, and weight on the bit and speed of rotation have been so pronounced that major companies are associating all these factors into one combination while attempting to improve drilling time through difficult formations. Changes in pump pressures and mud volumes particularly are desirable in sticky formations when speed of rotation and weight on bit are increased. The tendency for a bit to ball up is noticeable when weight is added and the slugs of soft formation and gumbo are not broken up and washed out by the pumps.

Recent experiments in several Gulf Coast fields have vindicated the action of operators who claim that increased weight on the bit is a necessity in many formations. In one field edge wells were being drilled with difficulty, and the tendency of the bit to drift down-structure was so pronounced that holes

of five and six degrees from vertical were common. Operators had been drilling with as little as 1½ points of weight and a rotating speed of 175 revolutions per minute, but the tendency to drift remained. One operator increased the weight to eight points and reduced the rotating speed to prevent undue strain on the drill pipe. The result was the straightest hole that had been drilled in that part of the field. The increased weight apparently was the exact requirement needed for drilling a straight hole in the slanting formations. In other fields, however, it has been very difficult to drill straight holes with more than four points of weight on the bit. It should not be concluded that weight always is a major requirement, even in slanting formations.

The Texas Company has been studying the relation between various rotating speeds and weights, and drilling time in various formations. This company has not been inclined toward extremely high rotating speeds, and considers 125 revolutions per minute a good average in medium formations. An extreme speed of about 175 revolutions per minute has been used under unusual conditions, but such a rapid rotation has been confined to light drilling operations and to reaming and straightening jobs. A light weight on the bit and rapid rotation has proved very effective in drilling through sticky gumbo. This combination gives a shaving effect and permits the pumps to wash out the cuttings before they can ball up the bit. The critical weight in drilling Gulf Coast gumbo is low, and crowding the bit usually results in trouble. Increased weight gives a grinding and mashing action to the bit that leads to an accumulation of large cuttings near the bottom of the hole.

Conservative use of the mud pumps is favored by The Texas Company, an anlysis of increased pressures and volumes in a number of Gulf Coast fields having shown less drilling progress with large mud volume than with a reduced volume and pressure. Heavy use of the pumps often loosens slugs of gumbo and sticky formations and adds friction near the bottom of the hole.

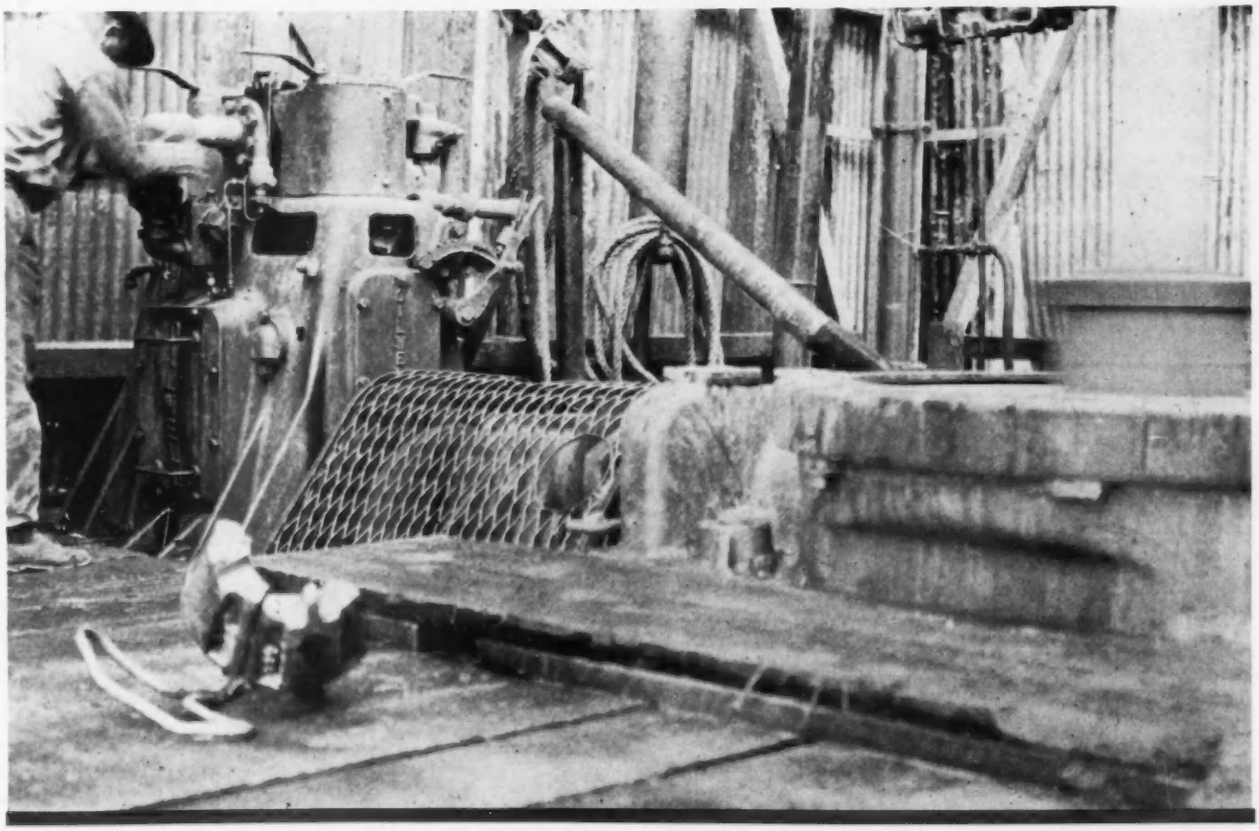
The company has been experimenting with weights and rotating speeds in an effort to determine their relation to deviation of the hole. It has not been possible to reach any conclusions, and the change in the course of the hole because of adjustments of weight and rotating speed has been negligible under average conditions. The experiments were in the nature of efforts to check the feasibility of controlled or directional drilling on a modified scale.

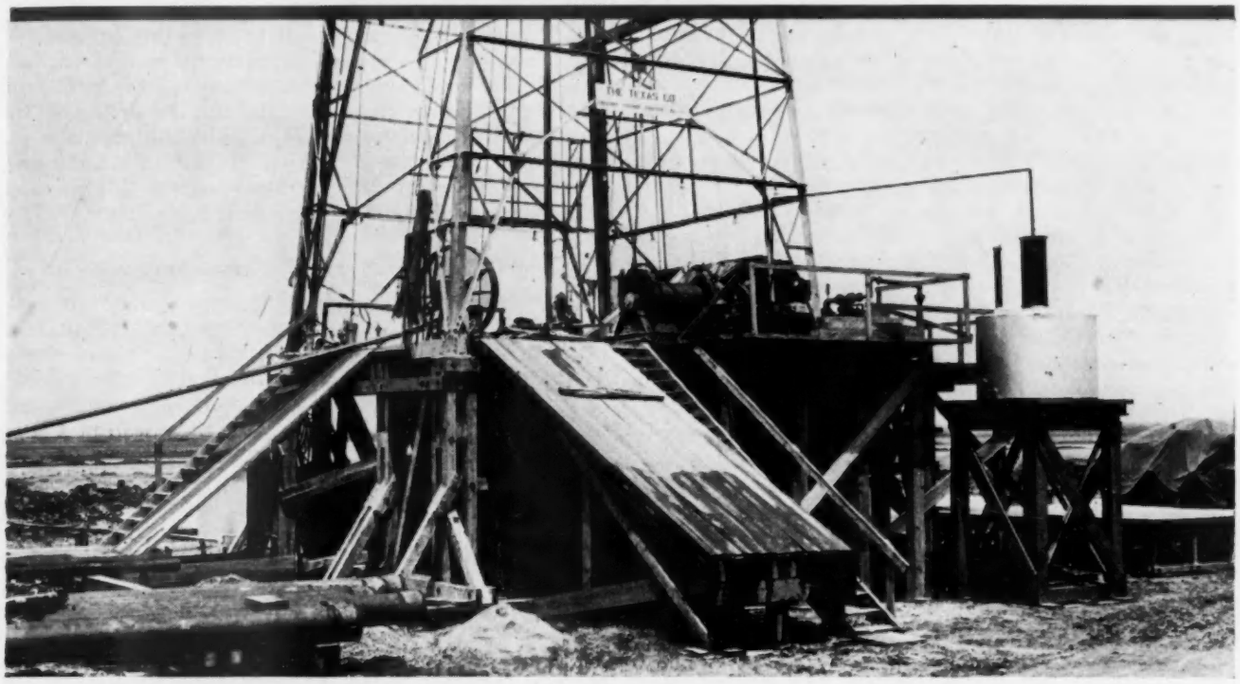
200 Revolutions Per Minute

Edwards Drilling Company, Gulf Coast drilling contractors, has been using a rapid rotating speed for some time, and under extreme conditions has rotated the drill pipe 200 revolutions per minute. The weight carried varies from two to four points, and pump pressure is varied with weight and rotating speed. In very hard formations, both the weight on bit and speed of rotation are reduced. The company has found a slow grinding action in very hard rock more effective than rapid rotation and reduced weight.

While drilling in heaving shale and in caving for-

In the Kettleman Hills field, a rapid rotating speed is maintained by a separate drive to a small steam engine.





The Texas Company has been using reduced rotating speeds, light weight on the bit and moderate pump pressures while drilling heaving shale in a test at Bryan Heights, Matagorda County, Texas.

mations, Edwards Drilling Company attempts to make a good hole without regard for speed. The temptation is to drill rapidly through these treacherous formations, but experience has been an expensive teacher, and disturbance of the hole is avoided. A light weight is carried on the bit, moderate rotating speeds are maintained, and the mud pumps are adjusted to wash out the cutting at about the rate they are made.

By supporting most of the drill pipe and allowing only the bottom portion to rest on the formation, the drill pipe string is held straight, and whipping and wabbling is reduced to a minimum. The company has been studying weight charts in an effort to determine the connection between crooked holes and weight carried on the bit. The relation between excessive weight and deviated holes has been so close that it was safe to conclude that light weight was desirable in ordinary formations.

Rapid rotation of the drill pipe is desirable in many formations, but the increased wear and breakage of equipment often offset the gain recorded by faster drilling progress, this drilling contractor has found. Rapid rotation has been especially effective in straightening holes where too much weight had been applied. In a number of cases, holes have been straightened from three degrees to one-half of one degree from vertical by easing the weight to 1½ points and rotating at high speeds. In soft formations that stand up, rapid rotation gives faster and better hole than a lighter and a slower combination.

George Echols, another Gulf Coast contractor, has made a long study of the effect of weight and speed on drilling progress, and follows the general rule that reduced weight on the bit and rapid rotation will give best results in the predominating formations. His drillers are instructed to use from two to four points on the bit during normal drilling operations, and from one to two points while taking cores. The tendency has been toward still lighter weight on the bit during coring operations. In two or three fields it has been possible to get good cores by using one point of weight and a slow rotating speed, where the former practice of coring with two points of weight and a rotating speed of 125 revolutions per minute had been a failure. The success of both drilling and coring operations depend upon the ability and intelligence of the drillers, and each driller is coached to vary speed, weight and pump pressure to meet conditions.

Shell Petroleum Company has been experimenting with high rotating speeds, but has not done enough work to determine whether the extremely high speeds are practical with present rotary equipment. In the Roanoke field, a deep producing area along the Louisiana Gulf Coast, the company attained a rotary speed of 250 revolutions per minute, but such a rotating rate had many disadvantages. Breakage of surface equipment was common and severe during the tests, and it was evident that sustained rotary speeds above 200 revolutions per minute with standard surface equipment now available were not practical. The very rapid rotation did result in greater drilling progress in the soft formations encountered in the Roanoke field, but it was accompanied by breakage of rotary chain and wear on the draw works and table that probably increased the elapsed time to a longer period than would have been required for drilling at a slower rotating speed.

In one field, Shell Petroleum Corporation succeeded in drilling a straight hole with more than twice the weight that had been used unsuccessfully in other tests. A number of operators had been unable to drill a straight hole with two to three points of weight and a rotary speed of 125 revolutions per minute. The company more than doubled the weight

on the bit and reached the objective formation with an almost straight hole. The added weight provided the principal means of drilling through slanting formations that could not be drilled successfully with the conventional weight and rotary speed. Drilling in this field was an exception, since the company ordinarily drills with two to four points of weight on the bit and a fast rotating speed.

Use of tool joints with large outside diameter on five-inch drill pipe strings offers several advantages where the drill pipe shows a tendency to whip and wabble. When used with a large drill collar, the combination more nearly fills the hole and gives a steadying influence. The chief disadvantage of the larger connections lies in the danger of getting the drill pipe stuck in soft or caving formations.

Heavier Pipe Helps

Several companies are using from 200 to 300 feet of very heavy hydraulic pipe on bottom of the regular drill pipe string to give a steadying tendency to the entire column. Most of the fishing jobs are caused by breaks just above the drill collar, but use of heavier drill pipe near bottom has eliminated the trouble in several fields. Higher sustained rotating speeds are possible with a heavier bottom section, while the increased rigidity offers several advantages not present with full light-weight drill pipe strings. In placing the greatest pipe weight near the bit, it is possible to suspend the entire weight of the smaller diameter drill pipe while permitting only the weight of the heavier pipe to rest on the formation.

Humble Oil & Refining Company is an operator that uses moderate and even low rotating speeds under average drilling conditions. This company normally rotates the drill pipe from 90 to 110 revolutions per minute, and has found the surface equipment gives better service with conservative rotation. The average drilling weight on the bit varies from two to four points. Extremely high speeds have not been attempted, although during straightening operations, higher rotating speeds have been employed.

This company is operating a test rig in the Tomball field and has been making a careful study of the effect of various rotating speeds, weights on bit, pump pressures, and torques on drilling progress. The relationships of various speeds to wear-and-tear on surface equipment also is being studied. The highest rotating speed has been 125 revolutions per minute, and the average has been considerably lower. Actual drilling time of a well recently completed in the field was 5½ days, by far the best record yet made.

In the Bosco, Louisiana, field, the principal operator has been drilling 8000- and 9000-foot wells in record time. This area is one of the few nearly ideal fields for rapid drilling. A rapid rotation, light weight on the bit and a large mud volume are used to drill from the surface to 7000 feet in less than 10 days. The mud pumps do the bulk of the work in some of the softer strata, and are an important factor from top to bottom. The field presents a good example of one suited to rapid hole-making by rapid rotation and a large mud volume.

Shell Oil Company of California has been experimenting with very high rotating speeds, and actually attained a speed of almost 300 revolutions per minute while drilling at shallower depths. Enough was learned to indicate that surface equipment and drill pipe will give much more trouble with high speeds than with intermediate rotating speeds. A critical speed of rotation apparently exists for all formations, and even the most responsive strata can be drilled to advantage by rotating the drill pipe at a rate well under the maximum already attained. A very light weight was carried on the bit during the period of rapid rotation. The surface equipment plainly was overworked during the highest rotating speed.

Slower in Hard Formations

Gulf Production Company learned many interesting things about rotating speed and weight on bits while drilling McElroy 103, record deep test in West Texas that was drilled to 12,786 feet. Light weight on the bit and very rapid rotation was attempted while drilling through the first of the very hard formations encountered below 9000 feet. The combination was not successful, however, and it was necessary to reduce the speed of rotation and maintain the weight that had failed with the very rapid rotation. Several bits that were rotated rapidly failed to make any hole. Reduction to a rotating speed of about 90 revolutions per minute gave immediate results, following failure to make hole at about 150 revolutions per minute. Experience proved that the critical rotating speed in very hard formations is much lower than in the softer strata.

The company attempted to carry from 1½ to four points on the bit, and during the greater part of drilling operations below 7500 feet maintained a weight roughly equivalent to the weight of the 10 or 12 joints of heavy hydraulic pipe that made up the lower section of the drill pipe string. Such a weight permitted a supporting effect to the main drill pipe string and placed the weight on the short lower section that was best suited to carry it.

The force of an ordinary impact varies as the square of the speed of the blow. This means that doubling the speed increases the impact four times. Theoretically, a speed of 200 revolutions per minute gives a bit impact four times as great as a speed of 100 revolutions per minute. In very hard formations, a fast rotating rate often gives a chiseling and shattering effect, rather than a uniform grinding effect that is desired.

One company found through experiments that the drill pipe had an up-and-down action during very rapid rotation. This rising and falling tendency prevailed during the drilling of the first few hundred feet of hole, then diminished as more drill pipe was fed into the hole. Extreme whipping and wabbling of drill pipe often is accompanied by an up-and-down action of the bit.

Coring usually is done at a high rotating speed and with little weight on the core head. From one to two points is the usual average, while the rotating speed varies from 100 to 200 revolutions per minute. In the very hard formations, it often is necessary to reduce the rotating speed to prevent burning the bits.

The driller is an important factor in modern drilling operations, and upon his intelligence depends the outcome of many difficult phases of drilling and fishing problems. Various indicating devices also are indispensable. Experience has shown that frequent adjustments of weight and rotating speed are necessary while drilling any well that offers changes in formations.

SEVERAL IMPROVEMENTS AND ADDITIONS ARE MADE WHEN HUNTINGTON BEACH

Gas Plant Is Remodeled

By JOHN C. ALBRIGHT

TRANSMISSION of natural gas from Huntington Beach field, California, was increased in volume considerably during the winter of 1934-35. The increase in gas and oil production because of the activity on the beach front provided for an additional volume, and the demand from cities and towns southward for fuel made it possible for greater amounts of the fuel to be boosted through the pipe lines serving these communities.

In order to meet the enlarged production and demand for fuel, Industrial Fuel Supply Company made several improvements and additions to its compressor station Number 5 at Huntington Beach. The station had been operated with satisfactory results during the winter of 1933-34 with 20 twin compressors, which had handled the load without being overloaded.

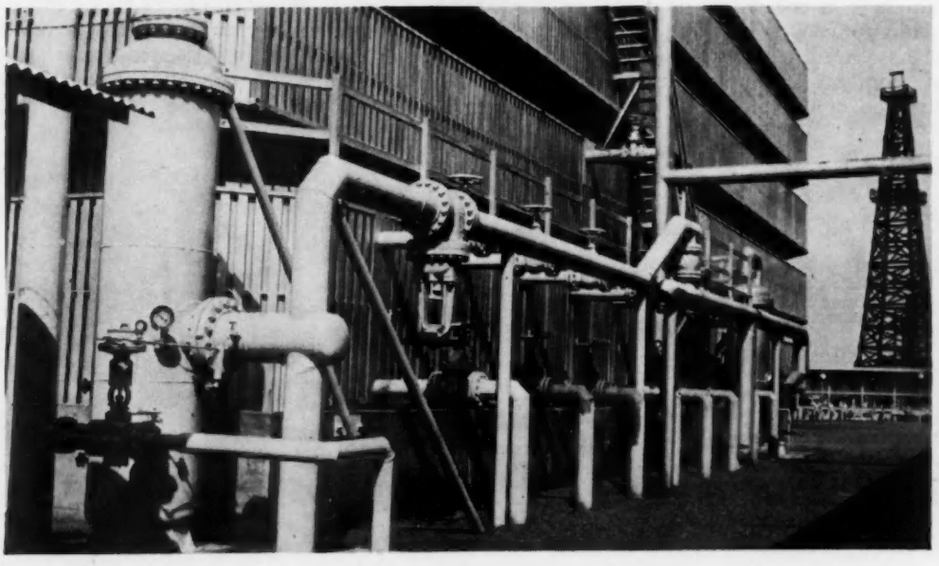
Cooling Unit Arrangement

The principal, and perhaps the most noteworthy change in the plant, while it was being added to, was in the arrangement of the final cooling units placed in the new louvre tower. During times past, the accepted practice in placing cooling coils was to arrange them in banks, with the gas entering the units through the topmost section, and flowing through the others in a constantly downward stream. This was done, no doubt, to enable the condensate, whether gasoline or water, to follow the path of least resistance, and has been followed generally by compressor station and gasoline plant engineers since that time.

E. L. Ford, superintendent of compressor stations for Industrial Fuel Supply Company, found that the water falling through the louvre tower was sufficiently low in temperature to provide efficient cooling of the gas, but that as it was transferred by gravity from one pipe to the one immediately below, it increases rapidly in temperature. This seemed to bear out his reasoning that as the gas leaves the cooling bank at the lower side, the water is highest in temperature at that point also. Because of this condition, it is often impossible, or next to it, to obtain the minimum temperature on the gas at the outlet of the cooling sections.

Due to these deductions and investigations carried out by him and others in his organization, it was decided to reverse the flow of gas through the cooling units, placing the discharge lines leading from the common header, or individual compressors, so that the gas could enter the cooling sections at the lowest point. This application provides for the flow of gas to begin at the point where the water is at the highest temperature, but flowing upward, completing a counter flow with the path of the falling water. This method is the accepted practice in enclosed shell and tube cooling units, and performs as well with the atmospheric sections which were installed in the compressor station at Huntington Beach. Temperatures with an average of 80°F. were obtainable after the change was made, as compared to the average of 90°F. before the flow of gas reversed.

The dropping of 10 degrees in the temperature of



Controller (at left) which operates by-pass in gas line to dehydrators in Industrial Fuel Supply Company at Huntington Beach, California.

the gas entering the pipe line also increases the amount which the line will carry. In addition, the dew point is lowered so that water in the pipe line and drips is conspicuous by its absence. A volume of water, which averages about 1600 gallons daily, is being condensed from the gas, in addition to the amount regularly trapped before the flow of gas was reversed in the cooling sections.

Temperatures obtained on the final cooling after the gas had passed the high pressure cylinders was in the neighborhood of 90 degrees before the installation of the new cooling unit. This temperature had been considered quite satisfactory until the larger volume of gas was handled, which resulted in raising the dew point of the gas causing considerable water vapor to drop from the gas after it had entered the transmission line.

Water vapor in the line caused the company to install several drips along the right of way and to maintain them in condition. This not only caused added expense by maintaining a line walking crew to blow the drips, but lowered the efficiency of the line. Quite often the pipe line would accumulate water vapors and necessitate special trips to bleed the drips, despite the fact that they had been blown regularly

The new engines were installed in February, 1935, but it required only 18 days to place them in position. Eighteen days was the elapsed time from the time the fence was cut to permit entry into the compressor yard, until the four engines and compressors were used in pumping gas to San Diego and other points of consumption. Of these 18 days, five were days on which it rained so that the construction crews could not accomplish their work because of soft soil and other conditions which prevented the running of concrete foundations for the engines and compressors.

Piping Changed

At the same time the compressors and engines were being installed, the operating and maintenance crews regularly attached to the plant were busy changing the intake and discharge lines and fittings on the existing compressors. Control valves had been originally placed in the underground pipe conduits, which made it difficult at times to shut down a unit or place one in operation.

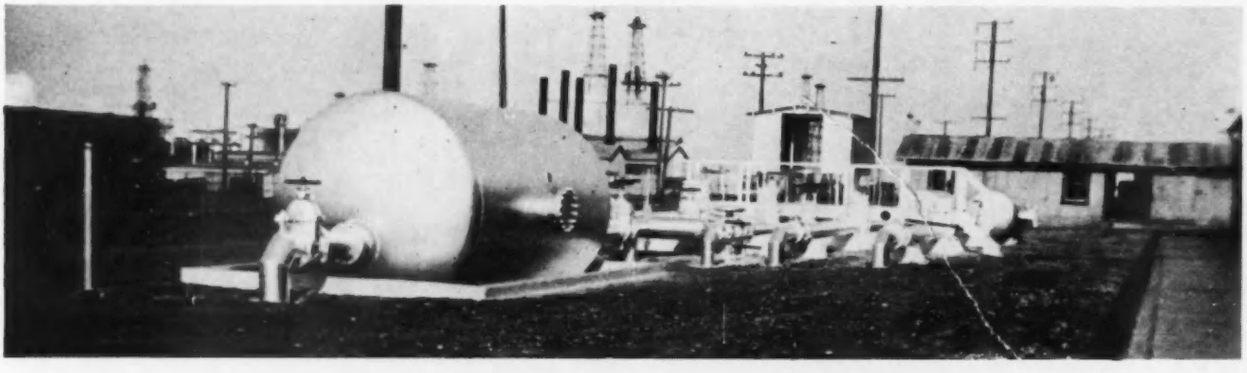
The new arrangement consists of a series of piping which is in the shape of a "Y" in the intake system, made up by welding the joints together so they would fit as a unit when flanged to their respective points of contact. The intake line comes through the covered conduits in the floor of the engine room as before the change, but incorporate the advantage of having the intake control valve on the riser at a convenient point for the operator when operating the engines. The lines converge at a three-point contact so that the suction lines may be attached to each compressor cylinder. A by-pass line drops downward from this point to be connected to the discharge from the bottom of the cylinders. This line runs straight across from one to the other, but connects at the center points with the discharge header and the by-pass line. The other plug valves are employed in this system, one on the by-pass, and the other on the common discharge line after the two have been joined to it, after coming from each cylinder outlet flange.

Some apparent discrepancies were indicated in the records furnished by the meter charts, due to pulsation of the gas through the meter runs caused by the "in step" operation of the compressors. Drums were placed in the discharge and intake lines before and after the compressors and between the meter runs. Several types of pulsation dampeners had been given a trial during previous years but none had given the desired service which was expected of them. They were generally home-made units constructed from the cut and try method. This system, however, has brought out some interesting developments concerning pulsation, and the elimination of it in measuring gas under pressure.

The newer type of pulsation dampeners are still used experimentally, but have given comparatively good results in eliminating the errors in measuring the gas. The Pacific Coast Meter Association is conducting a series of tests to determine the actual results obtained by the use of these cylinders, and to discover newer applications towards obtaining accurate measurement of gases.

Fluid which may condense or become trapped in these horizontal cylinders is removed through ordinary drain lines attached to the lowest point in the chambers, but all which lead to a common point that makes it convenient for the operators to draw it from the tanks. Small lines are used for this purpose, one half and three quarter pipe serves quite satisfactorily.

The gas handled at the Huntington Beach compressor station is largely residue coming from one or two gasoline plants operating in that field, and it contains more or less water vapor which will condense partially from the gas between compressions. The new louvre tower is more or less instrumental in enabling the company to dry the gas so the dew point is well below the ground temperature where the pipe line is laid.



Pulsation dampeners, Industrial Fuel Supply Company, Huntington Beach.

PROGRESS OF THE WEST TEXAS

Search for Ordovician

PRODUCTION SHOWS POSSIBILITIES

By GEORGE A. KROENLEIN, Geologist
Carlsbad, New Mexico

WITH the coming decline of the great East Texas oil field, it is necessary that a number of major oil fields be discovered in order to maintain future production at its present rate. One of the best prospects for large caliber fields is future development of Ordovician production in the great Permian Basin of West Texas and southeast New Mexico. The results obtained from Ordovician exploration will determine whether or not the area will continue as an important source of oil. The present status of Permian development indicates that an intensive search for Ordovician production is in order. Outside of the possibility of two or three additional new fields, prospects for future production from Permian horizons are considered unfavorable. There is sufficient undeveloped proved and semi-proved area to keep the companies busy for the next few years. In addition some exploration for Permian production in the deeper part of the basin will continue, however, the producing horizon is at a depth of approximately 5000 feet or more which depth is too great in comparison to the economic character of Permian production.

Big Lake Field

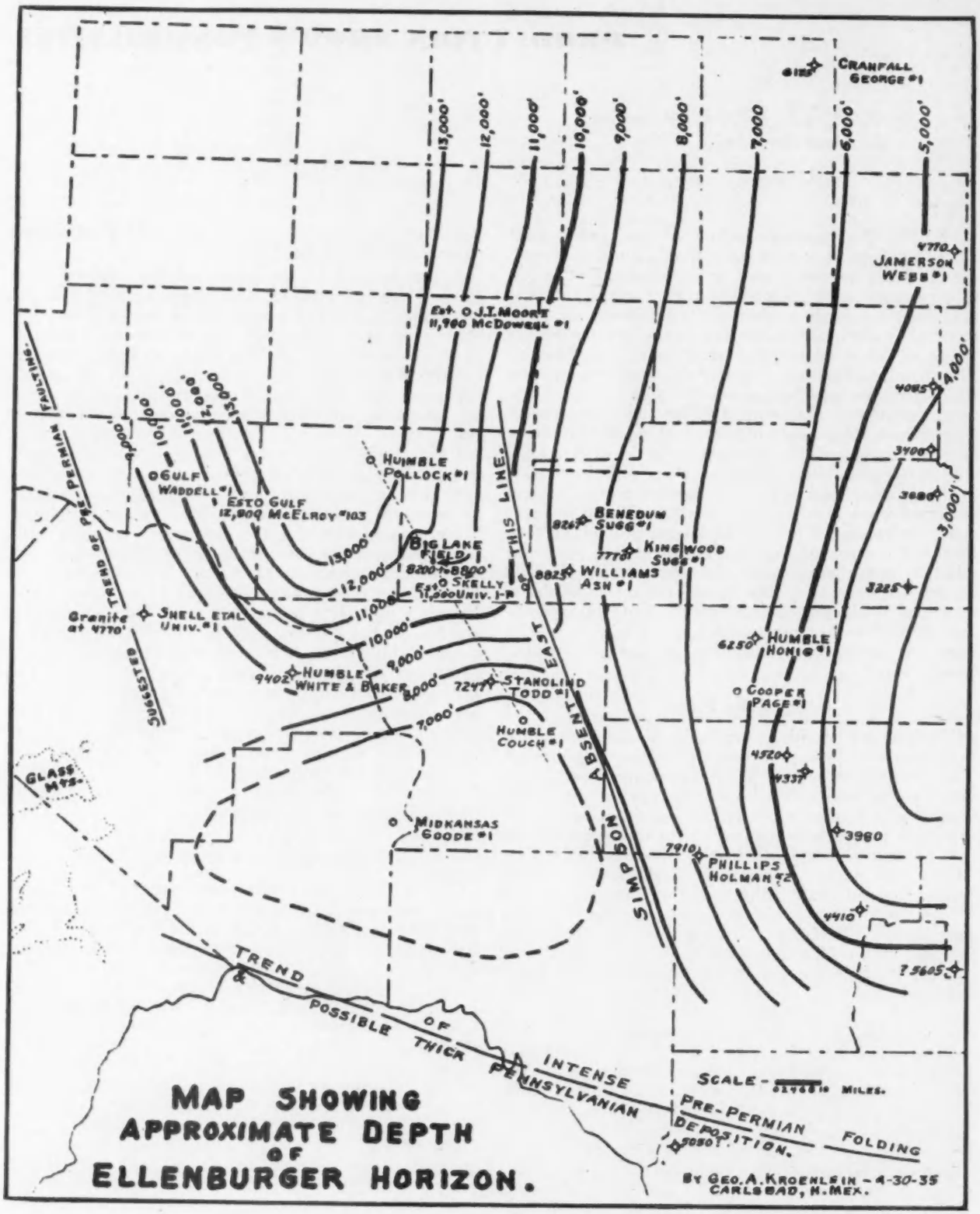
The purpose of this paper is the discussion of past and future exploration for Ordovician production. The Ordovician beds of West Texas are divided into three formations. The lower Ordovician or Ellenburger is composed of dolomitic limestone with considerable porosity developed in its top portion, and is a prolific source of oil in the Big Lake field. The Middle Ordovician or Simpson is composed of alternating beds of shale, sand, and thin limestones. The Upper Ordovician is cherty limestone. The Simpson and porous Ellenburger are the main prospects for oil production. The distribution of the Simpson formation is an important factor in defining the most favorable area for Ordovician production. Its absence limits the possibility to the Ellenburger alone and such possibility is discouraging because of past experience. In North Central Texas and Northeastern Oklahoma, the absence of Simpson explains the poor results obtained by many Ordovicion tests. The portion of rock section between the Permian oil horizon and the Ordovician has some prospect for commercial production because a number of good oil and gas shows have been found. The general absence of water in this zone indicates poor porosity. Only one producing area has been discovered during the past search for Ordovician production; namely, the Big Lake field.

A test located in the center of the shallow field reached the Ellenburger at a depth of 8500 feet on December 1, 1928. Its completion marked the discovery of the producing zone which is the most prolific source of oil in Oklahoma. To date, approximately 20,000,000 barrels of 45 gravity oil have been produced from the Ellenburger. At present 25 wells are producing 4700 barrels daily and approximately 300 barrels of natural gasoline is recovered daily. All the wells flow natural and produce water with the oil. The production comes from a porous dolomite whose initial porosity is probably augmented by fracturing. On top of the Ellenburger pay there is 550 feet of west dip and 300 feet of east dip with the north portion of the structure undefined. An area of approximately 1100 acres is producing from Ellenburger compared to 2900 acres in the shallow Permian pay. The domal structure has 200 feet of closure on the shallow pay and on the Ellenburger considerably more. The north-south apex of the Ellenburger structure is shifted a half mile east of the apex of the shallow structure. No production has been developed in the Simpson formation. 350 feet of Simpson is present on the southwest flank, but is very thin or absent on top of the structure. The recovery of approximately 20,000 barrels per acre compares favorably with recovery in the siliceous lime or Arbuckle of Oklahoma.

Development Outside of Big Lake

Up to date, seven tests have reached the Ordovician below a depth of 5000 feet. In addition three wells are drilling at a depth of approximately 10,000 feet or more. The accompanying map shows the important deep tests drilled or now drilling for Ordovician. Comment about the geology of each test and its contribution to the Ordovician problem follows: Cranfell et al George 1 was drilled in a shallow producing field. Subsurface information shows an irregular nose without closure on the east. Only 300 feet of Ellenburger is present. In Irion County, three tests penetrated the Ellenburger: namely, Kingwood-Suggs, Williams-Ash, and Benedum-Suggs. None of these three tests were drilled on favorable geology of any type. Humble Oil & Refining Company's Honig 1, was drilled on the strength of geophysical work and meager subsurface information

of gradational character. Phillips Petroleum Company's Holman 2 was drilled on the strength of a large magnetometer feature. All the above six tests passed from the Pennsylvanian through a thin detrital zone into the Ellenburger and found water. The absence of Simpson indicates that the area east of the line marked on the map is similar to that of North Central Texas and does not have good Ordovician prospects. Stanolind Oil and Gas Company's Todd 1 is the most encouraging Ordovician test drilled outside the Big Lake field. Excellent shows of oil were found at 7270, 7274 and 7285 feet in soft Ellenburger dolomite. After considerably delay in testing, the well showed considerable salt and sulphur water. This test was drilled because of good geophysical evidence and its location on a general subsurface



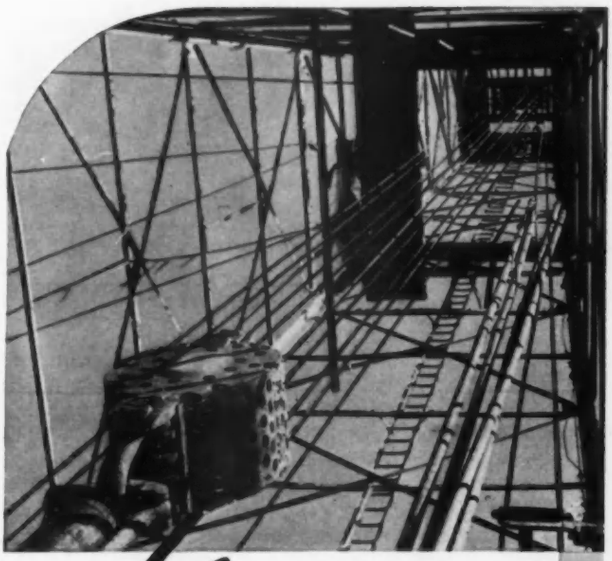
high trending from Big Lake through the Powell field. Since the abandonment of this test several tests have been drilled nearby in search of shallow Permian production. Present subsurface data shows an irregular east-west structure with the Todd test on the north flank. The presence of gradation in the bed used for subsurface mapping detracts from the dependability of such information. 240 feet of Simpson is present above the porous Ellenburger. Humble Oil & Refining Company's White and Baker 1 was drilled on a subsurface feature located on the trend between the Ft. Stockton high and the Yates field. This well reports over 1500 feet of Simpson which is the greatest thickness known in Texas. A very significant test is that of Shell Petroleum Corporation's University 1 which found pre-Cambrian granite from 4770 to 5204. Both the Simpson and Ellenburger are absent. This well is located on one of the most prominent folds in the sub-surface geology of West Texas and is called the Ft. Stockton high. This feature has several hundred feet of closure, a portion of which may be gradation. The absence of Ordovician in this test, the presence of igneous rock in three scattered tests to the north, and the trend of Permian and subsequent folding leads the writer to suggest a possible trend of pre-Permian faulting as indicated on the map. Moore et al's McDowell 1 is shut down at 9945 feet in lime and shale containing shows of oil and gas. This formation is above the Ordovician and Pennsylvanian in age. The test is located adjacent to a Permian producing area and shows a good subsurface nose plunging to the southwest. No closure is present to the northeast. Skelly Oil Company's University 1, to the northeast of the Big Lake field, which plugged back from white and gray cherty limestone at 9967 feet, is above the Ordovician. This test is located in a very small Permian oil field and shows a small amount of closure on the trend from Big Lake to the Powell field. Gulf Production Company's McElroy 103 which is the deepest hole in the world, with a total depth of 12,786 feet, topped the Simpson formation at 11,400 feet. This well is located in the McElroy oil field, one of a group of fields located in en echelon fashion along the east front of the Central Basin Platform. The east dip off the platform is very steep but the west dip represents gradation and not folding. Two other tests are drilling for the Ordovician; namely, Humble Oil & Refining Company's Pollack 1, and Gulf Production Company's Waddell 1. The Pollack test is based on geophysical data and is located on the northwest extension of the Big Lake-Powell trend. The Waddell test is located on an inside fold near the central part of the Central Basin Platform, and is a very interesting location because it will throw some light on the problem of pre-Permian faulting and the existence of an hypothetical granite ridge underlying the Central Basin Platform. A short discussion of Ordovician production in Oklahoma and its relation to West Texas follows:

Ordovician Production in Oklahoma

Ordovician formations are the greatest source of oil production in Oklahoma and a short summary of their characteristics will serve as a guide in West Texas exploration. Both the Simpson and the Ellenburger (Siliceous lime) produce, but the Simpson is the most prolific source because it produces from a number of sand horizons whereas the Ellenburger produces from a porous dolomite carrying much water. At Oklahoma City, estimates of the probable oil recovery give 20,000 barrels per acre to the Ellenburger and 200,000 barrels per acre to the entire Simpson. The Simpson is absent from northeastern Oklahoma and little or no production has been produced from the Ellenburger in that area. Three types of structural conditions produce. First, the local major and minor folds. Oklahoma City, Cushing, Garber, and Tonkawa are examples of major folds, and scattered 80 acre areas of Wilcox production in the vicinity of Tulsa are examples of minor folds. The Big Lake field of Reagan County, Texas, is an example of the major fold type. Such major folds represent positive structural movement which is reflected in the overlying beds. Second, a buried major feature called the Hunton Arch which carries the numerous fields grouped under the name of Seminole. This feature is not reflected on the surface but represents a large positive area comparable to one of the units of the Arbuckle Mountains. Third, the mountain type of structure illustrated by the newly discovered Fitts pool. This discovery marks an epoch in Mid-Continent geology because henceforth areas of very steep dip will not be condenmed as unfavorable. Intense folding is indicated by overthrusting and faulting of great magnitude. This discovery is important to West Texas because it throws a favorable aspect on the extreme south rim of the Permian Basin. Factors recommending an area for Ordovician testing are surface, subsurface, and geophysical structure. Many of Oklahoma's major Ordovician fields, like Oklahoma City and Cushing, have excellent surface structures. In general, surface evidence in West Texas is scarce because of the youth of the surface formations and the absence of recent movement over positive highs. In Oklahoma, the uniform character of the individual beds is very favorable to subsurface and geophysical location of Ordovician highs. Conditions in West Texas are the reverse, the individual beds are very irregular and grade rapidly from dolomite to anhydrite to salt and red beds. This condition is not favorable for dependable subsurface data on Ordovician structure, and makes it difficult to interpret geophysical data. In Oklahoma, an area of shallow production on a favorable subsurface high almost assures Ordovician production. This assumption is not true about the majority of West Texas producing fields. Permian lime production is located on the steep front of a thick limestone mass. Although it is possible that the general growth of the main lime mass has some relation to folding, the subsurface features which produce oil are controlled by local physical conditions of lime deposition. Thus shallow Permian pro-

Next Week . . .

D. E. Silcox, chemist, and R. B. Rule, assistant chemist, producing department, Standard Oil Company of California, will discuss the selection, specification and testing of cement for oil wells.



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ducing areas are not dependable criterion for an Ordovician test. The above discussion indicates the difficulties facing exploration for Ordovician production in West Texas.

Conclusion

The past search for Ordovician has defined the area containing Simpson formation and outlined the area below economic drilling depth. Outside of the Big Lake field no Ordovician test in West Texas has been drilled on geological data as reliable as that characterizing Oklahoma Ordovician production. It is evident that the area of economic drilling depth lies within the triangle outlined on the map by the 7000-foot contour. The depth within this contour will range around 7000 feet more or less and is dependent on structural conditions. Local major Ordovician highs are necessarily present in this area and it is possible that a large buried feature comparable to the Hunton Arch may be present. The showing of oil and gas in the Stanolind Oil & Gas Company's Todd 1, in the northeast corner of the area, and oil shows obtained in Ordovician water wells at the town of Marathon located on the southwest edge of the area, contribute to the favorable prospect. Simpson should be present over the entire area with thick development toward the geosyncline on the south. There are two important inactive Ordovician tests located in the area. Humble Oil & Refining Company's Couch 1 is located on the Big Lake-Powell trend and has favorable geophysical evidence. The test is temporarily abandoned at 1650 feet. The other interesting test is Mid-Kansas (Marathon Oil Company) Goode 1, which is located on an exceptionally large surface structure. This test has five and a half million cubic feet of gas at the top of the sandy zone at 5606 feet and is shut down at 6114 feet because of the conservative development policy of the Mid-Kansas during the past period of overproduction. This large Comanchean structure is indicative of positive structural movement and the magnitude of the uplift has exposed a small inlier of Permian where the Pecos River breeches the structure. Some geologists expect this test to reach the Ordovician within the next additional five or six hundred feet of drilling, basing their conclusion on the correlation of the coarse sandy material at the bottom of the hole and that found in the Stanolind Oil & Gas Company's Todd 1 above the Ordovician. Some think that there is possibility of a thick Pennsylvanian section, but that is theoretical. Because of the small number of shallow tests drilled in this general area and their general unfavorable geological location little knowledge on the potential value of this area is available. The small amount of subsurface data, the absence of dependable surface structures and the great depth hinders rapid Ordovician exploration.

The Hobbs field of New Mexico is a large local structure similar to Big Lake and is the most promising location for an Ordovician test in southeast New Mexico. Sierra Madra, a prominent surface feature in Pecos County located a few miles northeast of the Glass Mountains has some possibility but more than likely an igneous intrusion is responsible for its deformation. The Powell shallow field located on the Big Lake-Powell trend has some possibility, but its subsurface fold is very small in comparison to Big Lake.

Markets Lose Ground

CRUDE PRICES REDUCED IN PENNSYLVANIA AND MONTANA

THE oil industry's markets have continued to be characterized by the difficulties that appeared originally several weeks ago. California has had no change in its troubled state, and in the rest of the country the markets remain unsettled, following further crude price cutting, affecting Pennsylvania and Rocky Mountain crudes.

California producers have had enough success in voluntary proration to prevent crude prices from dropping. But the crude output is above safe levels, and the threat of crude price cutting lingers, while the surplus crude continues to hold product prices below normal. To assure maintenance of the prevailing crude prices, higher refinery prices are needed, and for such higher prices, better crude control is required.

Pennsylvania grade crude was cut 10 cents a barrel July 16, after having been reduced 15 cents three weeks previously. It is now 40 cents a barrel lower than during February, March, April, and the first half of May, three cuts having been made since the middle of May. The present new prices are 60 cents a barrel lower than those prevailing a year ago, Bradford district oil now being $1.95 a barrel.

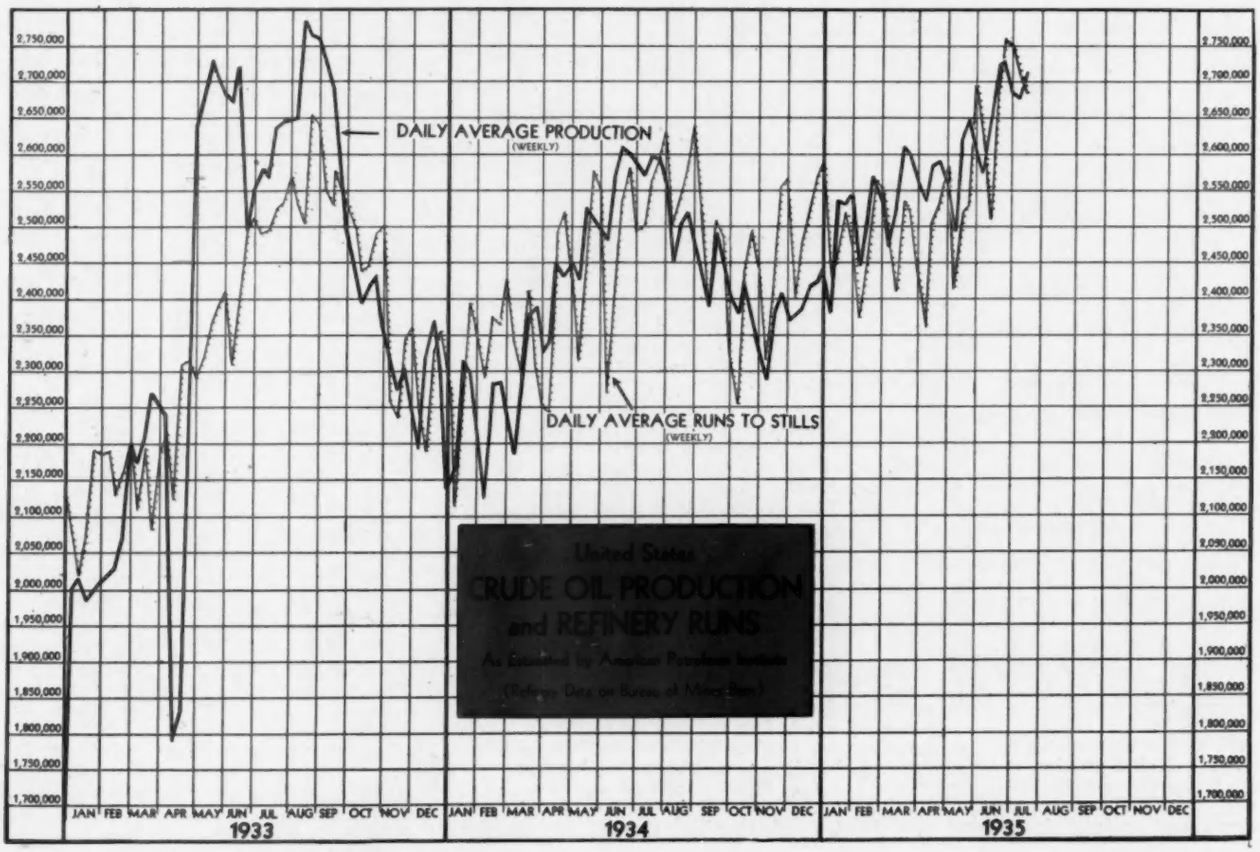
Prior to last week there had been no changes in crude prices since the early days of the oil code, in the fall of 1933, except for revisions on Pennsylvania grade crude and the recent five-cent cut for several South Texas fields. But last week there was a reduction for another area. Ohio Oil Company, effective July 19, reduced the posting for Sunburst (Montana) crude from $1.35 to $1.20 a barrel. The old price had been in effect since September 29, 1933.

In the Mid-Continent, crude prices have continued unchanged at the code era levels, except for the small South Texas cut. But the crude market in the region has become soft because of excesses of production in some areas and because of weakening of the tank car market of the Mid-Continent.

Various factors have contributed to unsteadiness of the tank car market, although prices have continued unchanged around the relatively high levels that have prevailed for over two months. For several weeks there has been an increase of Mid-Continent refinery activity, due to lifting of oil code restrictions and to reopening of formerly idle plants, with better wholesale prices prevailing. Consequently, offerings of gasoline and other products have steadily increased in the past two weeks or so. The fact that prices have held up is explained by better jobber buying and continued purchases by major companies, with weather conditions generally favorable.

Runs to stills are particularly significant in the Mid-Continent, where numerous refiners do not have fixed outlet for their gasoline, and must depend largely on the tank car market for disposing of the output. It is indicated, therefore, that the trend of the spot market in the immediate future will depend largely on the refinery operations. Continuation of activities at recent proportions may force some refiners to shade prices to obtain outlet, it is pointed out.

Another unfavorable influence in the Mid-Continent has been the continuation of East Texas hot oil operations



at substantial proportions. The situation there has been further complicated by the state's confiscation and public sale of illegally produced oil. Material so handled has been released on the market as tenderable oil. It has consequently gone into railway traffic, whereas straight hot oil is confined to movement by truck. However, even the confiscated oil is being barred from interstate shipment, by the federal tender board, and it is thus held within Texas borders. By virtue of these developments, the strain on Texas retail markets has increased, and in some areas gasoline prices at the service stations have dropped as low as nine cents a gallon, including five cents taxes.

In the Mid-Continent retail markets, generally, moreover, price cutting has been increasing during the past two weeks. That has been the case, for example, at several important marketing points in the Chicago region. Major companies, however, have held their service station postings up so far.

Mid-Continent Tank Car Prices

Late in the week information from Oklahoma indicated third-grade U. S. motor fuel, below 62 octane, had gone back, following a slight recession, to the 4¾ cents per gallon price at which it was posted two weeks previously. Brokers continued to buy from day to day, and stocks still were below the average for the season. Middle grade gasoline, 62-67 octane, continued unchanged at 5⅛ cents a gallon, and the premium grade, 68-70 octane, at 5½ cents. The three grades were priced in East Texas at 4⅝, 5, and 5⅜ cents, where eligible for tenders; and the same in North Texas except that the premium grade was 5⅝ cents. In East Texas, third-grade gasoline that was not supported by tenders, and that had to be moved by trucks, was selling for less than half the tank car price.

The current output of hot oil in East Texas has continued around 35,000 barrels daily, it is indicated.

UNCERTAINTY EXISTS

With California market future still unknown

THE market in California early last week was still an unknown quantity, and plenty of oil men are predicting a cut in crude prices, while you can find many others who feel the crude structure will hold, and they say the gasoline price structure must readjust itself within a short time. Therefore, its a game of guessing what will happen. The month started off fairly well as to production of crude oil, since it appeared that those working hard for curtailment were making some headway. Then for two days, daily average production started jumping up. But figures for July 12 indicated a reverse, as the Valley producers started cutting back. July 10, the production was 562,183 barrels, and on July 11, the total moved up to 565,011 barrels, but July 12, the production for the state declined to 557,735 barrels. Most of the reduction was in Valley fields.

This turn of events may mean that the producers of the state have made up their minds to reduce production to a point where it will equal, and maybe under, demand. Crude purchasing agencies are very much adverse to reducing the posted price of crude and are giving the producers every chance possible to reduce the output. Some of the refiners, especially the smaller ones, would like to see the price of crude oil reduced, as many are finding it a heavy burden to make gasoline out of dollar crude, and sell the finished product at a net back of three to four cents a gallon. In fact, they can't do it without a real loss.

Reduce Retail Price

Some independent dealers in Southern California have reduced their retail price on third-grade gasoline to 11.5 cents, against an official price of 12.5 cents at major company controlled stations, but these dealers are taking the loss of one cent themselves. They are doing this to meet the competition of the dealer selling cut price gasoline at 9.9 to 11.5 cents. At least a dozen small plants have closed down in Los Angeles Basin, rather than continue to operate at a loss.

In spite of the production over the allowable of crude oil, not much crude oil is being sold at less than the posted price. Many of the concerns over producing operate their own refineries, and their production is not dumped on the market. It is felt that the next 10 days will tell the story. Either crude oil prices will have to be reduced, or gasoline prices will have to be raised. Conditions as they now are can't continue very long.

The tanker that arrived in ballast from East Coast at Long Beach Harbor to load gasoline for movement to Oregon and Washington has been delayed, due to loading facilities not being ready. The gasoline for shipment has been purchased and is ready to move, when facilities are ready. It is not thought the shipment will do much towards breaking that market, although the retail prices in some instances may be forced down about two cents.

The fuel oil market continues steady, with holders of the larger part of the stocks refusing to sell at reduced prices. There is also no apparent weakening of the asking price on gasoline for export, but there has not been a spot export sale in a long time. Gasoline that is moving is on contracts.

East Texas Tank Car Shipments

Week Ending July 14, 1935

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	623	5,064,325
Fuel Oil	244	2,278,434
Topped Crude	244	2,236,567
Casinghead Gasoline	212	1,817,228
Crude Oil	97	886,471
Distillate	86	692,835
Kerosene	65	524,084
Gas Oil	35	289,294
Naphtha	23	186,345
Residuum	18	145,937
Total	1,647	14,121,520
Total Previous Week	1,273	10,778,172
Intrastate	670	.....
Coastwise	506	.....
Interstate	471	.....
Total	1,647	.....

SHIPMENTS UP

East Texas is supplying most of state's low grade

EAST TEXAS refineries are rapidly commandeering the bulk of the third-grade gasoline sales in Texas with tank truck and rail shipments approaching an all-time record for volume for intrastate deliveries. This heavy movement has been made possible largely through the availability of state tenders on products derived from confiscated oil repossessed by the plant owners after going through the formality of a sheriff's sale.

Movement of gasoline via trucks from the district during the week ending July 14 amounted to about 3,345,000 gallons, according to creditable sources, while rail shipments of this commodity increased to 5,064,325 gallons. However, only 109 cars were consigned to Texas points. Marketing of the repossessed oil after the state collects its bounty of about 30 cents per barrel is not confined to the refined oil products manufactured by the East Texas plants, as many of the plant owners are making heavy deliveries of crude, topped crude and fuel oil to other plants scattered throughout the state. During the past week 2,236,567 gallons of topped crude was shipped from East Texas via rail, and only one car qualified for federal tender. Fuel oil shipments within this period amounted to 2,278,434 gallons, or 244 cars, and 202 cars were consigned for intrastate points. Movement of 886,471 gallons of crude oil via rail was billed to other plants within the state.

Since the state has seen fit to place a legal status on all products sold back to the owner after confiscation because of being illegally produced, the majors are planning to start making purchases of gasoline derived from such products instead of adhering to their current policy of buying a liberal quota of gasoline each month at a flat price of 4⅝ cents per gallon. Majors can fill their third-grade gasoline requirements with state tendered material at 3½ cents per gallon, and at same time reduce the supply of distress material now threatening a general break in the retail price structure on gasoline.

Pampa, Texas.—Crude stocks in the Texas Panhandle at the close of June amounted to 13,617,600 barrels, representing a decline of about 160,000 barrels for the month. Approximately 50,000 barrels of the reduction was due to the loss of a storage tank that was demolished by flood waters during the early part of June.

PRODUCTION UP

Domestic recovery 8475 barrels higher last week

UNITED STATES crude oil production last week, ending July 20, was 8475 barrels daily higher than in the previous week, and 62,275 barrels above indicated demand, having averaged 2,722,275 barrels daily.

As for the United States total, the output of each state last week was virtually unchanged from the previous week.

Oklahoma averaged 522,250 barrels daily for the week of July 20, compared with 521,375 barrels daily the week before. The state was indicated by the federal government to have demand for 517,400 barrels production daily during July.

Kansas averaged 149,825 barrels daily last week, which was about 3000 barrels per day more than in the previous week, but about 6000 barrels a day less than indicated demand.

Louisiana output rose about 1000 barrels to 140,700 barrels daily.

California production was unchanged at 562,000 barrels daily. The state failed to show the hoped-for reduction of output for the latter portion of the month, needed to compensate for higher production in the fore part of the month.

Texas output rose about 4000 barrels, going to 1,061,900 barrels daily. The federal government's estimate of demand for Texas crude in July was 1,064,400 barrels daily. Thus it was indicated the state was within its indicated demand. However, the figure here given on Texas production does not include surreptitious production in East Texas, indicated to have been around 35,000 barrels daily again last week.

CUT PENNSYLVANIA

Crude price in east gets third recent reduction

AFTER having been cut 15 cents a barrel three weeks previously, Pennsylvania grade crude was further reduced 10 cents a barrel July 16. These two cuts and a 15-cent reduction May 16 have brought the prices down 40 cents a barrel below the posting that was in effect from February 4, 1935, to May 16, 1935. However, on January 4 and February 4, 1935, there had been 15-cent increases. Thus the present prices are only 10 cents lower than in the month prior to January 4 (December 6, 1934, to January 4, 1935).

As compared with a year ago, the present prices are materially off. Bradford district crude, for instance, was selling at $2.55 a barrel from May 1, 1934, to November 6, 1934, compared with the present price of $1.95. There has been, consequently, a net decline of 60 cents a barrel.

There were 25-cent cuts on November 6, 1934, and December 6, 1934. In January and February, this year, the

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING July 20	July 13
TEXAS—		
Texas Panhandle	60,500	60,100
North Texas	59,200	59,200
West Central Texas	25,500	25,500
West Texas	156,500	155,800
East Central Texas	50,200	49,800
*East Texas Field	463,100	459,000
†South Texas	59,100	59,500
†Texas Gulf Coast	187,800	189,100
*Total Texas	1,061,900	1,058,000
OKLAHOMA—		
Oklahoma City	158,350	164,725
Seminole Area	131,300	134,450
Tatums	4,825	5,000
Lucien	10,150	10,100
Fitts	20,050	9,775
Edmond	4,525	4,900
Others	193,050	192,425
Total Oklahoma	522,250	521,375
KANSAS—		
Ritz-Canton	7,200	7,200
Voshell	4,475	4,625
Nikkel-Hollow	7,525	7,700
Sedgwick	7,875	7,675
Burrton-Haury	23,575	20,050
Lorraine	4,875	4,775
Others	94,300	94,500
Total Kansas	149,825	146,575
LOUISIANA—		
North Louisiana	22,500	22,300
Louisiana Gulf Coast	118,200	117,500
Total Louisiana	140,700	139,800
ARKANSAS	30,800	30,850
CALIFORNIA—		
Long Beach	76,000	76,000
Santa Fe Springs	41,000	40,000
Huntington Beach	44,500	45,500
Dominguez	19,000	19,000
Inglewood	12,500	10,500
Ventura Avenue	28,000	29,000
fieal Beach	7,500	7,500
Midway-Sunset	54,000	54,000
Elwood	13,500	12,500
Kettleman Hills	63,500	62,500
Mountain View	25,500	26,500
Playa del Rey	19,500	21,000
Others	157,500	158,000
Total California	562,000	562,000
MOUNTAIN STATES—		
Wyoming	39,500	39,200
Montana	11,400	10,900
Colorado	4,100	4,100
Total Rocky Mountain States	55,000	54,200
NEW MEXICO	53,100	53,100
EASTERN STATES	104,900	105,200
MICHIGAN	41,800	42,700
*Total United States	2,722,275	2,713,800
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	35,000	35,000
Grand Total, including surreptitious production	2,757,275	2,748,800

† Texas Gulf Coast figures include coastal section of South Texas.

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks; and Cracked Gasoline Production, Week Ended July 13, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term in Trans. & Pipe Lines	Total at Refys. Term., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	612	612	100.0	456	74.5	5,457	10,488	15,945	743	265	12,019	534	469	87.8	81
Appalachian	154	146	94.8	108	74.0	1,178	892	2,070	321	140	801	79	78	98.7	27
Ind., Ill., Ky.	442	424	95.9	376	88.7	5,434	3,740	9,174	830	55	5,028	349	338	96.8	123
Okla., Kans., Mo.	453	384	84.8	275	71.6	2,926	2,274	5,200	610	565	4,653	256	228	89.1	70
Inland Texas	330	160	48.5	109	68.1	1,043	107	1,150	261	1,380	1,778	148	105	70.9	27
Texas Gulf	617	595	96.4	568	95.5	4,647	251	4,898	1,964	280	10,480	399	393	98.5	125
Louisiana Gulf	169	163	96.4	111	68.1	631	495	1,126	238	.....	3,930	77	74	96.1	22
North La.,—Ark.	80	72	90.0	49	68.1	194	105	299	50	110	397	46	44	95.7	9
Rocky Mountain	97	60	61.9	42	70.0	852	.....	852	93	60	784	46	39	84.8	14
California	852	789	92.6	429	54.4	6,989	1,951	8,940	1,056	2,970	63,548	274	274	100.0	59
TOTALS WEEK: July 13, 1935	3,806	3,405	89.5	2,523	74.1	29,351	20,303	49,654	6,166	5,825	103,418	2,208	2,042	92.5	557
July 6, 1935	3,806	3,405	89.5	2,564	75.3	30,410	19,728	50,138	6,132	5,780	101,867	2,208	2,042	92.5	558

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week Ended July 13, 1935, compared with July, 1934 Bureau figures.

Estimate B. of M. Basis, July 13, 1935	2,685		610
Estimate B. of M. Basis, July 6, 1935	2,715		610
U. S. B. of M., July, 1934: Daily Average Crude Runs	2,575	U. S. B. of M., July, 1934: Daily Average Cracked Production	532

(a) Amount of Unfinished Gasoline contained in Naphtha Distillates.

(b) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

prices improved, but such improvement has been somewhat more than canceled.

Effective July 16, 1935, the Joseph Seep Purchasing Agency of the South Penn Oil Company posted these prices for Pennsylvania grade oil: $1.67 in South West Pennsylvania pipe line system, $1.62 in Eureka Pipe Line Company system, and $1.52 in Buckeye Pipe Line Company lines. At the same time Tide Water Pipe Company, Limited, posted a price of $1.95 for Bradford and Allegany district oils in Bradford Transit Company lines. All these prices were 10 cents lower than previously.

CUT SUNBURST

EFFECTIVE at the opening of the market July 19, the Ohio Oil Company began paying $1.20 a barrel for Sunburst, Montana, crude oil at the wells. Previously, the Sunburst oil had been priced at $1.35 a barrel since September 29, 1933.

RUSSIAN EXPORTS

Export of petroleum products from U.S.S.R. for the first three months of 1935 amounted to 845,573 metric tons, according to information received by Commerce reports at Wasington D.C.

TO REORGANIZE

Permission is granted to Louisiana Oil Refining

Shreveport, La.—Federal Judge Ben C. Dawkins has granted authority to Louisiana Oil Refining Corporation, which is petitioner in federal court in proceedings for re-organization, authority for their general sales manager, J. A. Welch, to enter into an agreement with Colonial Oil Company for the leasing of terminal facilities from the latter company at the port of Savannah, Georgia.

In the petition for the authority, Louisiana Oil Refining Corporation, set forth that negotiations had been under way for some time for the terminal facilities, for the handling of two grades of Louisiana Oil Refining Corporation gasoline. Under the terms of the agreement Louisiana Oil Refining Corporation agrees to pay the Colonial company three-sixteenths of a cent per gallon of gasoline handled through the port terminal facilities, with the guarantee of an annual rental of $5,000.

The gasoline will go by pipe line from the Louisiana Oil Refining Corporation's refinery at Bossier City, a Shreveport suburb, to Port Neches, Texas, and hence by barge to Savannah.

Comparison of Permits Granted for New Wells

STATE—	Week Ending July 13	Total this Mo.	Total this Year	Total this Date Last Year	1934 Year Total
Arkansas.	5	5	22	32	100
California	16	50	522	292	629
Louisiana.	16	37	448	446	799
Kansas...	24	41	556	524	1,015
Michigan.	12	31	278	255	460
Oklahoma	42	95	1,211	1,161	2,045
Texas....	334	607	6,101	5,675	10,550
Total..	449	866	9,138	8,385	15,598

TEXAS PERMITS UP

Austin.—Permits to drill oil wells filed with the Texas Railroad Commission during the past week totaled 334, with most of the increase in East Texas.

The East Texas district's total of 192 was about twice the recent weekly average. By counties, the East Texas locations were as follows: Cherokee, 1; Gregg, 51; Rusk, 89; Smith, 21; and Upshur, 30.

East Central Texas was low among districts, with only six wells and West Texas was second low with nine locations.

A spurt in the Coastal area accounted for 38 widely scattered locations. The adjacent Southwest Texas area reported 19 permits.

West Central operators planned 31 wells while North Texas locations numbered 22, of which six were in Archer County. Panhandle listed 17, of which Gray County led with 12.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to July 19, 1935)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, Wk'lr	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West				
West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and S.W. Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.80			6-29-35
Saxet	*.80			6-29-35
Mirando	*.75			6-29-35
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Grass Creek (Light)	*$1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.20			7-19-35
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Pondera	*.65			8-25-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-35
Mid-West States				
Lima	*1.15			2- 1-35
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.13			5-22-35
California				
Signal Hill	14— .65	1¢	16— .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B., Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .83	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans: Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship)	33— 1.03	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

* All gravities—flat rate.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15—$ .65	2¢	16—$ .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway-Sunset, Elk Hills, Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*1.95			7-16-35
Sw. Pa. Pipe Line	*1.67			7-16-35
Eureka Pipe Line	*1.62			7-16-35
Buckeye Pipe Line	*1.52			7-16-35
Corning Grade	*1.32			10- 2-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.

Summary of Wells Completed in the United States

Week Ending July 13, 1935

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1935	Total Completions this date 1934
Alabama	...	...	...	...	.....	3	2
Arkansas	...	...	...	...	.....	86	39
California	20	16	2	2	20,960	433	198
Colorado	...	...	...	...	.....	6	9
Illinois	...	...	...	...	.....	9	9
Indiana	...	...	...	...	.....	92	88
Kansas	31	16	2	13	6,260	739	456
Kentucky	7	5	...	2	205	92	64
Louisiana	15	5	3	7	1,115	403	389
Michigan	16	6	3	7	8,040	249	257
Mississippi	...	...	...	...	.....	12	17
Montana	6	4	....	2	400	67	62
New Mexico	3	3	....	....	31,600	146	52
New York	...	...	...	...	.....	...	4
Ohio	41	11	16	14	55	776	486
Oklahoma	41	25	1	15	106,575	1,239	1,079
Pennsylvania	...	...	...	...	.....	70	160
Texas	259	205	8	46	773,665	6,413	5,203
Utah	...	...	...	...	.....	...	3
West Virginia	10	5	3	2	15	263	212
Wyoming	3	1	...	2	100	34	25
Total this week	452	302	38	112	948,990	11,133	8,814
Total last week	391	249	28	114	624,445	...	...
Total this year	11,133	7,334	936	2,873	20,754,500	...	...

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24
May 2, 1933	.....	Cut 19	.....
May 9, 1933	Cut 20	.....	.....
May 22, 1933	Up 10	.....	.....
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

IF YOU ARE *looking* FOR THE MODERN METHOD OF LANDING AND CEMENTING CASING . . . . *look* ON PAGES 137 to 172 IN YOUR COMPOSITE CATALOG

It will pay you to read in detail how the last 20 to 50 feet of hole can be easily, safely and economically enlarged with a Baker Wall Scraper so that Baker Cement Floating Equipment will distribute the cement around the shoe and casing; and how you can then core or drill ahead without danger from metal or other fragments in the hole.

Many modern tools are described, such as the Baker Cable Tool Core Barrel, the Bakwik Drill Pipe Float and other products to make your drilling operations more profitable and to insure bigger, better wells.

BAKER OIL TOOLS, INC.

BAKER ROTARY HYDRAULIC EXPANSION WALL SCRAPER

MANY PRACTICAL USES

While both the engineer and the resourceful operator immediately will picture many uses for the Baker Wall Scraper, the following are a few of the more important advantages possible in almost every drilling well:

Bringing In and Cleaning Up the Well.—The tendency of rotary mud to plaster the walls of the hole is well known. The Baker Wall Scraper is ideal for removing all rotary mud and other substances from the face of the oil sand and enlarging the area of the sand body to obtain maximum production. Many wells are brought in more easily and in less time when the oil sands have been thoroughly scraped.

Straightening Crooked Holes.—For starting a wide shoulder as the first step in bringing a crooked hole back to vertical, great expansion at any desired point is an exclusive advantage of the Baker Wall Scraper. For example, in the larger sizes it is possible to cut a square shoulder with a width equal to the diameter of the hole being drilled.

Underreaming Greater Clearance for Liners and Casings.—Larger sizes of liners can be run where the hole has been underreamed, and turning down of couplings on liners can be eliminated. Liners can be pulled easily from holes enlarged with the Baker Wall Scraper.

It is often possible to overcome a miscalculation in casing programs, or rectify unavoidably "tight holes" by underreaming to a sufficient diameter to permit setting a larger size of casing than otherwise would be possible.

Underreaming as an Aid to Cementing.—Complete distribution of cement around the shoe joint and a better bond with the formation can be secured by underreaming the last 30 to 40 feet from the bottom before introducing the casing. This practice leaves the smaller originally drilled hole in which to center the lower section of casing suspended in the underreamed cavity. A cavity can likewise be formed in any part of the well which is to be cemented, such as when shutting off intermediate water.

To Secure Bottom Water Shut-off.—After bottom water has been plugged back with cement, a string of casing set, and the well put on production for a time, it is not uncommon for the water to break in again. A failure of this kind can now be remedied by drilling out the old cement, and then using the Baker Wall Scraper to ream out the cement and part of the formation. The hole can then be recemented successfully.

No. 6 Wall Scraper

42 GAGE ¼ Inch SIZES by steps

Fig. 29. Here are shown the various diameters of hole that can be underreamed with one size Wall Scraper

Fig. 28. The Baker Wall Scraper is a rugged tool which will underream a crooked hole and straighten it

Running in the Hole with Blades Closed to Body

Blades Cutting into Formation on Rotation start

Blades fully expanded in Cutting Position

Fig. 30. The operation is positive as shown above

BAKER OIL TOOLS, INC.

BAKER CEMENT EQUIPMENT

FOR GUIDING, FLOATING AND CEMENTING CASING

During the year 1929, Baker pioneered, developed and made practical Guiding, Floating and Cementing Equipment, with concrete and other non-metallic materials used for construction of the guide and the internal plug and valve assembly. The efficiency of this line of equipment is constantly being increased by carefully engineered improvements, which are tested in shop, laboratory and field, so that the various items in the line of BAKER CEMENT EQUIPMENT offered for 1935, present the ultimate in balanced combination of those three vital essentials for the safe and proper landing and cementing of strings of casing of any length—STRENGTH—VALVE EFFICIENCY—DRILLABILITY.

BAKER STRENGTH is sufficient to resist hydraulic pressures equal to the ultimate collapsing strength of the heaviest weights of grade "D" casing. Starting with the high quality steel in the seamless forging described in the foreword on inside of front cover, Baker engineers have designed and constructed each product to safely perform its function, and to possess an ample safety factor.

The Baker Formula Concrete used for internal plug (and for the guide when required) is more than three times as strong as ordinary concrete. The buoyant Bakelite Valve Ball is compounded, moulded and correctly cured to withstand tremendous crushing loads; greater than possibly could be exerted on the casing. The design of the Bakelite Valve Seat and Cage evenly distributes the tensile load over the entire area. Note from Fig. 1 how the heavier arched section of Bakelite over the valve seat evenly transmits the crushing load imposed by the ball valve, to the solid mass of concrete which is firmly anchored in the steel shoe or collar.

Fig. 1. Baker Formula Concrete—Bakelite Valve Assembly—the metal parts. These provide strength, valve efficiency and drillability

BAKER VALVE EFFICIENCY is secured by using a rubber ring made of extremely tough rubber, which cushions the buoyant, resilient Bakelite ball valve instantly and positively with the slightest reversal of pressure. This rubber ring is recessed in a deep groove, backed by a solid Bakelite seat which will withstand maximum pressures encountered. This rubber ring is made to prevent deterioration caused by oil, gas or heat, and at the same time possesses maximum strength and sufficient elasticity to seal at the lowest pressures.

The Baker double sealing valve eliminates all possibility of leakage while floating-in a string of casing and is particularly efficient following the cementing operations, when immediate and positive valve closure is necessary for successful cementing. It is an established fact that failure of the back pressure valve to operate quickly and positively may seriously jeopardize setting of the cement around the shoe and casing. Complete closure also prevents cement backing up the casing.

BAKER OIL TOOLS, INC.

BAKER CEMENT EQUIPMENT

BAKER DRILLABILITY

Modern practice in the landing of strings of casing has repeatedly indicated that floating equipment must incorporate, in addition to strength, the feature of being easily, rapidly and completely drilled up and circulated away.

Where metal is used, the operator is first confronted with extra bit expense and loss of time in drilling out or breaking out metal from the shoe or collar. There is always danger that the recently set cement around the casing will be damaged by the continued pounding and grinding action of the bit in drilling out or breaking up this metal.

A further disadvantage is that the metal fragments which remain in the hole prevent successful coring directly below the shoe. The tendency of large metal fragments to deflect the bit and start the hole off-vertical, is too apparent to require comment, particularly in deeper wells.

BAKER ELIMINATES METAL

No metal whatever is used in the internal construction of Baker Cement Floating Equipment—only Concrete and a minimum amount of Bakelite, which is set on end to present a small cross-section to the bit when drilling out.

The Concrete used is manufactured in small quantities according to the Baker Formula, the specifications for which were developed only after years of experience. The resultant concrete is . . . .

1. **Tremendously strong;**
2. **Subject to minimum expansion and contraction;**
3. **Ideal for close and permanent cohesion to the steel shoe or collar;**
4. **Easily drilled up into small particles which circulate out of the well.**

Fig. 2. A Bakelite Valve Assembly provides important Valve Efficiency

The entire valve assembly in all Baker Cement Floating Equipment is made of Bakelite, which is a resin-like substance produced when carbolic acid is treated with formaldehyde, and combined with powdered cellulose flour derived from wood or similar substances. This material is moulded under heat and pressure, and then cured to the desired degree of hardness and friability; the latter term meaning the capacity to be drilled up easily into small particles.

Fig. 3. "Baker-Bakelite" in ready form, as mixed formula and method of curing

Years of testing and development have provided an exact formula and a method of curing which distinguishes BAKER BAKELITE from that used for other purposes. But Baker does not depend upon the complete friability of Bakelite until the entire valve assembly is set vertically, so that the bit attacks only a small cross-sectional area, grinding it up with the concrete as it drills down.

LARGER CIRCULATION AREAS

To insure rapid and unrestricted passage of the cement, the new Baker Bakelite Valve Assemblies have larger circulation areas than previous types. However, these areas have been carefully designed to retain the very desirable "wash-down" effect so essential in many fields.

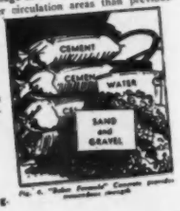


Fig. 4. "Baker Formula" Concrete provides tremendous strength

HAPPY LANDINGS OF YOUR STRINGS OF CASING

From the above, and from the further descriptions which follow, you can readily appreciate why every piece of Baker Cement Floating Equipment brings you a perfectly balanced combination of . . .

STRENGTH — VALVE EFFICIENCY — FRIABILITY

to meet the three vital essentials of modern operators . . .

LANDING EFFICIENCY—CEMENTING EFFICIENCY—DRILLABILITY

and why Baker can always assure you . . .

THREE POINT LANDINGS—HAPPY LANDINGS of your casing.

BAKER OIL TOOLS, INC.

POST OFFICE BOX 609, HUNTINGTON PARK, CALIFORNIA

COALINGA • TAFT • HOUSTON • OKLAHOMA CITY • TULSA • NEW YORK

WORLD DEVELOPMENTS and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

Canadian Survey

EXTENDS DOMINION OIL AND NATURAL GAS INVESTIGATION[1]

The Geological Survey of Canada has undertaken this year an extended search for structures favorable to the accumulation of petroleum and natural gas. Opportunity for the enlarged program of field work was provided when the Canadian Parliament in the Supplementary Public Works Construction Act, 1935, approved an appropriation of $1,000,000 for geological surveys and investigations. A considerable sum of the funds available has been set aside for projects in areas of promise for oil and gas.

The Honorable W. A. Gordon, minister of mines, has announced that the oil and gas investigations will be carried on in five areas, two of which are in Eastern Canada and three in Western Canada.

Those in Eastern Canada are both in the province of Ontario, one embracing Manitoulin Island in Georgian Bay and the other almost the entire southwestern peninsula of the province lying between Lake Erie on the south and Lake Huron and Georgian Bay to the west and north.

In Western Canada, one of the projects will extend from Edmonton across eastern Alberta and western Saskatchewan to the vicinity of North Battleford, covering 40,000 square miles and taking in a belt on both sides of the North Saskatchewan River.

Another project in Western Canada will extend the investigations from North Batteford eastward across Saskatchewan to the Manitoba boundary, approximately 25,000 square miles.

The third project in Western Canada covers 6500 square miles in the southeastern corner of Alberta including the section south of the Milk River adjacent to the Kevin-Sunburst oil field in Montana.

Strong field organizations have been appointed to take charge of the oil and natural gas investigations. The large project in southwestern Ontario, in an area where 23 million barrels of oil valued at $31,500,000 have been produced since 1881 and where the recovery of natural gas has had a value of $95,000,000 since 1892, is being directed by Dr. C. S. Evans and Dr. J. S. Stewart. Dr. Evans is a post-graduate of Princeton and Dr. Stewart obtained his Ph.D. at Yale. Both heads of the survey have had extended experience in natural gas and petroleum geology and they will seek information to indicate where drilling might have reasonable chances of success in discovering additional Ontario resources of oil and gas. The Manitoulin Island investigation, which is of smaller extent, is being directed by Dr. M. Y. Williams, another experienced petroleum geologist with years of service on the survey staff.

Dr. G. S. Hume, well-known for his petroleum and natural gas investigations in Alberta and Saskatchewan, on behalf of the Geological Survey, is directing the Eastern Alberta-Western Saskatchewan project. Included in his staff are Professors R. L. Rutherford and P. S. Warren of the department of geology at the University of Alberta, Dr. C. H. Crickmay, formerly a professor at the University of Illinois, and C. O. Hage, graduate of the University of Saskatchewan. The region which will be covered by the parties working under Dr. Hume is considered to hold one of the greatest known potential natural gas reserves in Western Canada. Edmonton, capital city of Alberta, draws its natural gas supply from the Viking area and other important gas fields include Kinsella, Fabyan, Wainwright and the new field at Lloyd-

[1] Publication of this article has been sanctioned by Charles Camsell, deputy minister of mines.

Japan Imports Up

NEW LAW REQUIRES THAT SIX MONTHS SUPPLY BE HELD

If not already inaugurated, heavy shipments of crude oil and gasoline to Japan must begin promptly, due to the fact that Japan's latest petroleum law requires oil companies to have on hand a six months supply of imported oil by October 1, 1935.

Concurrent with the increase in stocks on hand required by the law, additional steel tankage must be erected. It is estimated this tank construction program will involve the expenditure of from 40 to 60 million yen, with the government contemplating furnishing none of the money.

Japan's policy with reference to oil companies operating there and with reference to imports of crude and petroleum products is primarily military, designed to overcome some of the handicaps which Japan's small domestic production puts on the country.

Inasmuch as the nation's gasoline demand for 1935 is estimated at from 270 to 280 million gallons, a study of the following table showing crude production in Japan and North Saghalien from 1922 through 1934 will illustrate how dependent Japan is upon imported products and why it is imperative, from the navy's standpoint, that a large stock of oil be kept on hand.

Jajan's principal importers today are Rising Sun Petroleum Company, a Royal Dutch Shell subsidiary, Socony-Vacuum, Mitsui Bussan, which imports General Petroleum Corporation products, and Marukawa, importer of products of The Texas Company.

Domestic refiners in Japan are comprised largely of the following: Nippon Oil Company, Ogura Oil Company, Mitsubishi Oil Company, Hayama Oil Company, Niitsu Oil Company, Aikoku Oil Company, and Maruzen Oil Company.

JAPANESE PRODUCTION 1922-1934

(Figures in Barrels of 42 Gallons)

YEAR	All Japan Including Formosa	North Saghalien	Total Japanese Production
1922.....	1,952,699	.....	1,952,699
1923.....	1,801,443	.....	1,801,443
1924.....	1,804,803	.....	1,804,803
1925.....	1,858,969	.....	1,858,969
1926.....	1,802,745	208,803	2,011,548
1927.....	1,730,001	550,900	2,280,901
1928.....	1,997,905	854,000	2,851,905
1929.....	2,037,700	1,295,000	3,332,700
1930.....	1,943,263	1,351,280	3,294,543
1931.....	1,966,139	1,309,000	3,275,139
1932.....	1,690,675	1,309,000	2,999,675
1933.....	1,435,735	1,050,000	2,485,735
1934.....	1,475,236	1,204,714	2,679,950

Conversion from tons based on seven barrels per ton. Japan and Formosa conversions based on Nippon Oil Company figures; North Saghalien (Russian) conversions based on North Saghalien Oil Company figures.

minster, on the Alberta-Saskatchewan boundary. Wells in the Wainwright field are producing a small amount of crude oil.

Eastern Saskatchewan Project

Dr. R. T. D. Wickenden, whose previous work for the geological survey included bed-rock geology in the southern part of the province in which he is located this summer, is in charge of the Eastern Saskatchewan project. He is working across that province from Dr. Hume's area, his district extending to Hudson Bay Junction. Near this point there has been considerable drilling recently and strikes of oil and gas are reported. In the center the area takes in from Saskatoon to Prince Albert or a breadth of about 90 miles. Dr. Wickenden's personnel includes Dr. T. B. Williams, Dr. Roy Graham and R. L. Hewitt, each of whom is in charge of the investigations in a division of the territory.

Dr. L. S. Russell, post-graduate of Princeton, who is in charge of the investigations in southeastern Alberta, continues on a broader scale his studies of the geology in the southern part of the province where he has worked for several seasons. The area, east of Lethbrige and south to Courts on the international boundary, contains a number of proven gas fields, such as those at Bow Island, Foremost and Medicine Hat. The Rogers-Imperial well, south of Foremost, probably had the largest initial flow of any gas well ever drilled in Canada. Oil is being obtained in the Red Coulee field near Coutts and is present in the Skiff field. The principal discoveries of the region, however, are south of the boundary in the state of Montana, where intensive development has taken place in recent years. It will be Dr. Russell's task to prove, if possible, that the favorable structures for oil do not stop at the 49th parallel, as might be assumed from the location of the wells now producing. With Dr. Russell as chiefs of sub-parties are Dr. J. C. Sproule, R. W. Landes and W. C. Howells, each of whom is conversant with the geological problems of southern Alberta.

Domestic Supply Four Percent

The public interest of Canadians in oil discoveries lies in the Dominion's present petroleum deficiencies, less than four percent of the consumption of oil coming from domestic sources. The province of Alberta is responsible for nearly 90 percent of the current Canadian production, almost all of the output being from Turner Valley, where there is a considerable production of naphtha from wet-gas wells. Alberta had a total production of 1,260,000 barrels of petroleum in 1934. Ontario produced 141,385 barrels; New Brunswick, 11,545 barrels; and the Northwest Territories, 4438 barrels.

The total value of the Canadian production of crude petroleum last year was $3,558,482, a figure which compares with $3,138,791 in 1933. Against the relatively small home production of 1,417,368 barrels, or under 50,000,000 Imperial gallons, in 1934, Canada imported from the United States, Colombia, Peru, Venezuela and other countries a total of more than 1,207,000,000 gallons of crude and refined oil which, with other petroleum products, reached an aggregate value of $41,326,000 for the oil imports of last year.

VENEZUELA OUTPUT

Indicated well above production last year

Indications are the Venezuela will produce considerably more crude oil in 1935 than in 1934, figures for the first four months of this year recently released showing a cumulative total of 46,161,402 barrels as against a cumulative total of 42,556,780 barrels for the first four months of 1934, an increase of 3,604,622 barrels.

If the present drilling pace in Venezulean fields continues, world markets will absorb about 10,800,000 barrels more of Venezulean crude in 1935 than they took in 1934. The monthly excess thus far this year is 901,155 barrels over what was produced last year, on a four months' average.

FINNISH SHALE

Refining plant proposed by industrial interests

A combination representing Finnish industrial interests is contemplating erection of a refinery in Finland to produce gasoline out of Estonian shale oil, according to Consul General Herbert S. Goold of Helsingfors.

In addition the combination contemplates obtaining a concession to exploit certain shale deposits in Estonia to obtain raw material for the refinery in Finland.

It is reported that preliminary negotiations have been started for the purchase of the shale oil plant belonging to Swedish Wallenberg, a concern at Kohtla, Estonia. Capacity of the plant at Kohtla is 12,000 tons of crude per year.

The Finnish combine contemplates obtaining a contract from the Finnish government for the army and state-owned industrial establishment gasoline supply.

OUTLOOK IS GOOD

Sir John Cargill tells Burmah stockholders

SPEAKING of efforts to establish equilibrium between supply and demand of crude oil, Sir John T. Cargill, chairman of the Board of Burmah Oil Company, recently stated, "There has been encouraging resumption almost throughout the world of the upward curve of consumption." He further stated, before the last meeting of his stockholders:

"In the United States and elsewhere there has also, partly by legislation and partly by growing good sense and co-operation in the industry, been further progress towards regulation of production of this valuable and wasting asset to the economic demand for it. There is going on, too, all the time the natural decline inherent in the fact that whatever the world's resources are they are being consumed while no progress of replacement is going on; in recent years in the United States, at any rate, and I suppose in Rumania, a feature uncompensated for by fresh discoveries of deposits of consequence."

In connection with the trend of nationalization of industry which is bothering certain major oil companies operating in those countries, Sir John Cargill declared: "There is the present wave of economic nationalism which, whether to help solve unemployment or because of military anxieties, presses for synthetic and indigenously produced oil at enormously greater cost than natural petroleum.

"And above all there is the fact that however limited the world's resources may seem on a forward view, and however near some producing countries may appear to be to requiring all their own production and more, improvement at the moment is to a great extent artificial because there is much readily available production merely shut in."

Sir John feels, however, that on the long view there is much ground for confidence. "Demand must continue to expand," he says; "production of natural petroleum in the very nature of things cannot last indefinitely.

"And one thing therefore is certain. Both the countries and companies which have produced sanely, and not in the spendthrift way of some in recent years, will ultimately get their reward."

NORTH AFRICA

Twenty-two applications for concessions have been filed at Lourenco-Marques with the government of Portugese East Africa by various oil operators. All the applications seek permission to do exploratory drilling in the district of Inhambane, a detailed description of which appeared in the June 24 issue of THE OIL WEEKLY. Inhambane is on the African shore of the Mozambique Channel.

BELGIAN TEST

The wildcat well drilling near Moll on the Belgian frontier is drilling below 2700 feet without having encountered any showings of oil or gas, according to a communication received by THE OIL WEEKLY June 25.

Identity of the company drilling this well is not obtainable, but a Mr. Vingerhoets is in charge of activity at the rig.

FRANCE

Permit to explore for oil and gas for two years in the territories of the communes of Pezenas, Castelnau-de-Guers, Nezignan - L'Eveque, Valros, Montblanc, Aumes, district of Beziers, France, has been solicited by Louis Paul Camille Pineau, director of Office National des Combustibles Liquides.

Divorcement

[*Continued from page 14*]

ing prejudice, and correctly informed as to actual conditions, will conclude that the outstanding characteristics of the oil industry, as presently conducted, is lack of control rather than the existence of control. Here, if anywhere, in the larger American industries, there exists at the present time a condition of free competition which is the negation of monopoly. It is almost impossible to get any three oil men or oil companies to agree on anything, even the golden rule.

No single integrated group controls as much as eight percent of the oil reserves; or as much as ten percent of the pipe lines, or as much as 12 percent of refining capacity, or as much as nine percent of the retail market; and no single group owns all these maximum percentages. Widespread public ownership of stock in these integrated groups further diffuses ownership control. These facts are certainly no criteria of monopoly.

The only ear-mark of monopoly, commonly pointed to by advocates of divorcement, is relative uniformity of crude prices. Such, however, is just as much evidence, under certain conditions, of absence of monopoly as, under other conditions, of its presence. In fact, the Federal Trade Commission in its 1927 Report notes that such observed fact is nothing more than the normal situation in any other competitive industry. Uniformity of price alone is not evidence of monopoly. All economists agree to this self-evident fact; and our highest courts have recognized its truth. The reports of the Federal Oil Conservation Board, as well as numerous investigations of legislative bodies in recent years, have cleared the oil industry of any reliable charge that it is subject, at the present time, to monopolistic domination and control. Judicial investigation has confirmed these reports.

III

A third erroneous assumption is made by advocates of pipe line divorcement, that new owners would not have the profit motive which dominates present owners who are desirous of maintaining high tariff rates. Pipe line profits are desired by the executives of integrated companies, of course, but unreasonable profits from transportation would be sacrificed by them in order to have available an essential plant facility. But, after all, the amount of profit to be made in the operation of a pipe line company does not rest upon the determination of the owners, whether present owners or new owners installed by government fiat. These profits are determined by tariffs supervised and prescribed by regulatory bodies charged with the duty of permitting only a fair return on investment, considering the high risks and hazards involved in the enterprise.

A mere change in the ownership of oil pipe lines from one group to another neither increases nor diminishes the power of regulation now existing in lawful tribunals. Such a change adds not one whit to the honesty or efficiency of such regulatory tribunals. Administrative effectiveness remains the same.

Conclusions

The sum total direct results of a pipe line divorcement law would be to disrupt a tremendous investment in an established business, destroy recognized benefits under the pipe line system as now operated, place at an economic disadvantage Mid-Continent crude and "stripper" oil fields, kill the economic advantage to three fourths of the industry and to the general public of unitized operations under which crude oil is handled from the field to the consuming public without exorbitant profit, curtail, if not virtually eliminate, independent "wild-catters" developing new sources of crude supply, kill the present source of investing capital essential for continuous expansion of pipe line systems, eliminate a field market for independent producers, all for the purpose of having a new set of owners operating under the same regulatory bodies as now exist. The benefits to be derived are purely mythical; they belong in that category of Utopian ideals which sway the fancy of dreamers. However, the indirect result of such legislation might be even more disastrous than the direct results. I am unalterably opposed to making the oil industry a public utility. This proposed legislation might constitute the entering wedge for this ultimate result. Government control of pipe line ownership, as an initial step, might well be followed by the exertion of similar control with respect to the other branches of the industry, and thus swamp, in those branches, the independent operator who now seeks governmental control of pipe line ownership. Governmental regulation and control of ownership is but one step removed from government ownership, as the present plight of our railroads concretely demonstrates.

ENFORCEMENT FIGHT

Between Texas officials reaches important stage

Austin. — The quarrel between the two principal enforcement officers for proration in Texas—Chairman Ernest O. Thompson of the Texas Railroad Commission and Attorney General William McCraw—has now reached the stage where the industry is beginning to wonder what effect it will have on enforcement.

The latest chapter in the dispute, which is well recognized in capitol halls, if not generally known outside Austin, was a blistering statement from McCraw from which he found it necessary to delete one paragraph.

The immediate reason for the statement was a trip which McCraw made over East Texas during the last week end with his chief oil assistants, Archie Gray and Dick Holt. He said they had talked to all classes of oil men, business men, and others, and were prepared to report "unquestionable improvement" in the general condition in East Texas.

This improvement, however, has not reached the place where statements that there is no hot oil can be made, McCraw hastened to add. Obviously he was cracking at Thompson, although observers at Austin could remember no recent statement by Thompson to that effect. Thompson has consistently, however, held the estimates of hot oil down to a minimum.

Such expression, MrCraw said, would "stultify the intelligence."

McCraw thought it was very smart on Thompson's part to increase the personnel of the Texas tender board from three to five and said "it is gratifying to know that Chairman Thompson has recognized the worth of the other three members. It is much better to meet the real East Texas situation by this character of action than by official proclamation in the press. It is something more than a gesture."

McCraw thought the improvement could be traced directly to two sources: The tender board and the House "hot oil" investigating committee. His recognition of that committee was somewhat surprising, as the general opinion, including opinion of members themselves, is that they haven't stirred up much that wasn't already known.

From the attorney general's viewpoint, however, the work had had a salutary effect, because hot oil operators were afraid of what the investigators might find out. "The most daring hot oil runners are thinking more than twice before acting."

The hot oil committee, he added, seems to be "free of all political entanglements and leanings."

The McCraw-Thompson feud, which may or may not have its foundations in political ambitions, dates back openly to the initial sales of confiscated oil when Thompson expressed the view that 40 cents a barrels wasn't sufficient

An Oklahoma casing record was established July 7, when 7690 feet of 9⅝-inch casing was cemented with 1000 sacks of cement in Denver Producing & Refining Company's Sah-Cam 1, in the Binger area of Caddo County.

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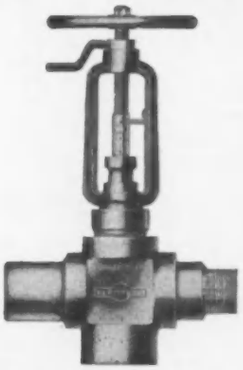

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for the confiscated hot oil sold at public outcry, or by receivership action.

Since then both have raced to get into print first with news of enforcement activities. A week ago Thompson made public a list of refiners accused of violations. A few days later McCraw said he was glad to have information on violations, through official channels or through the press. And there've been other instances.

What the ultimate outcome will be is problematical, but at present, most observers believe it is highly satisfactory to the oil industry. Those who want efficient proration are not concerned over what motivates the enforcement officers; they are interested in results. The results, naturally, are all that could be expected with two state officers doing their best to outdo each other.

FILE MANY SUITS

State of Texas files 14 proration suits in week

Austin.—During the past week, Attorney General Wiliam McCraw has just about set a new record for the filing of law suits.

His campaign has been directed chiefly at a group of East Texas refiners who had disregarded all East Texas court injunctions and persistently operated on untendered crude.

Cases filed in Travis County district courts since last Friday include:

Broadmore Sales Company, Roy D. Payne, J. H. Johnson and G. H. Burnham, $10,000 penalties for shipping oil in excess of tenders.

Johnson & Burnham, confiscation of approximately 18,000 barrels of waste oil intermingled with illegal oil in earthen storage.

S. G. Gentry, operator of the Riverside Refinery, and two employes, jailed in Travis County on pleas of guilty to contempt for operating in violation of an injunction. Gentry was sentenced to nine days; his employes to three days each.

Phoenix Refinery, enjoined from accepting 52 tank cars of products from L. R. Hepworth, on tracks at Houston; penalties of $52,000 asked.

Superior Refining Company, enjoined from further violations, penalties asked for 83 detailed shipments of untendered oil.

M. S. Johnson Refining Company, confiscation of stocks on hand and receivership pending sale of those stocks as confiscated oil. The same action was instituted against: Noble Refining Company, Goodson Refining Company, C. L. & W. Refining Company, Jay Refining Company, Acme Refining Company.

Keystone Refining Company, injunction and penalties.

C. L. & W. Refining Company, injunction and penalties (separate suit).

Brownwood Producing and Refining Company of Brownwood, $600 judgment for delinquent franchise taxes.

F. M. HACKBUSCH, independent operator, San Antonio, has moved his office to 508 Gunter Building.

MEXICO MEETING

Will discuss geological features of the country

San Antonio.—Mexico's oil and mining features will be discussed in detail at the Mid-year meeting of the American Association of Petroleum Geologists, combined with the annual convention of the San Antonio Geological Society, to be held in Mexico City, Mexico, October 16 and 17. Several of the papers to be presented have been announced, and it is likely that the remainder will be selected within the next few days.

Dr. Ezequiel Ordonez, of the Petroleum Institute of Mexico, and one of the most outstanding authorities on oil development in that republic, will present a paper on the "Physiographical Provinces of Mexico." J. L. Tatum, for several years district geologist for Continental Oil Company in Mexico, and now consulting geologist, McAllen, Texas, will present a paper on the "Geology of Mexico." W. G. Kane, with Ohio-Mexico Oil Company, Saltillo, Mexico, is to discuss the "Correlation of Northeastern Mexico with Southwest Texas."

"Mining and the History of Mining in Mexico," "The Various Tampico Oil Fields," and "History of Mexico," are other papers to be presented, which to date have not been assigned. The last paper will show how the mineral and oil reserves have affected Mexico's history.

A recent check on road conditions and progress, and on facilities for caring for attendants to this convention, indicate no inconveniences. Heavy rains several weeks ago did little damage to construction underway, but this will be overcome immediately and the highway rushed to completion.

KANSAS FIELD TRIP

Geological society plans one-day tour on July 28

Wichita, Kansas.—Kansas Geological Society has announced a one-day field trip for Sunday, July 28, starting at Ashland in central Clark County and ending at Anthony in central Harper County.

The party will leave the Hudson Hotel at Ashland at 7:00 a.m., covering the Permian, Cretaceous and Comanchean beds of Clark, Comanche, Barber and Harper Counties before disbanding at Anthony.

Those who are to attend have been urged to bring a lunch and drinking water.

DESOTO PARISH

Shreveport, La.—The Hunter Company's DeSoto Corporation 1, NW NW 29-12n-14w, a wildcat in DeSoto Parish, tested 700,000 cubic feet of gas in drill stem test last week after logging one foot of sand at 2811 feet in Tokio and are setting casing. Total depth is 2820 feet. This test is three fourths of a mile south of this company's Sutherlin 1, Section 20-12n-14w, completed as a 12 million-foot gasser in 1932, in the same horizon.

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Pipe Line Activity

NEW PROJECT— CONSTRUCTION PROGRESS

NOVEL METHOD USED

To overcome problem of marsh lands at Del Rey

Los Angeles.—A 16-inch gas line was completed recently in the Venice oil field for F. R. Long, Inc. This line, approximately 9000 feet in length, extending from the Del Rey Hills to Ohio Oil Company's gasoline plant, traverses the slough, and involved several problems in construction. Due to the type of marsh land, it was decided to lay it on wooden trestles of sufficient height to keep it above the high-water line. The ground was soft and wet and would not stand the weight of trucks or other heavy equipment.

There were five points along the right-of-way where it was possible to drive trucks for unloading materials for construction. The distance between these points varied from 1500 feet to 4000 feet. Since the soil would not support trucks or tractors, a different method had to be devised to string the pipe onto the trestles.

Trestles

The three-foot high wood trestles were constructed first and placed on the right-of-way at 35-foot intervals. At the five points accessible by trucks and adjacent to the right-of-way, a temporary pipe rack 60 feet long and wide enough for 10 joints of pipe was constructed. This rack was slightly higher than the trestles and ran parallel to it 10 feet away. Upon each trestle a specially built pipe roller was placed. The pipe was then welded into doubles, making a 60-foot joint, which was rolled onto the pipe rollers on the trestles. A cable operated by a tugger hoist was used to pull the pipe forward, moving 60 feet at a time, then another 60-foot joint was rolled onto the trestles and welded to the end of the line that had just been pulled ahead. The entire line, except for the portion on the hill, was welded together in this manner and from one location 2000 feet was welded and moved into final position, with but one connecting weld to be made out in the marsh land. With a crew of two welders and five helpers, 900 feet was layed in one eight-hour day. The entire line was completed in 20 working days, including tie-ins and painting. Another small piece of equipment that assisted materially in connecting the ends of the line over the marshes was a four wheel cart designed to straddle the 16-inch line. This cart carried one tank of oxygen, one tank of acetylene, and a welding outfit, and could be easily pushed along by the welder and his helper.

One end of the line extended up the side of the Del Rey Hills approximately 150 feet and was anchored both at the top and bottom to large concrete piers. Expansion in the line was provided for by the use of Lucas expansion joints placed 1000 feet apart.

ANAHUAC OUTLET

Humble is completing 6-inch line and station

Houston.—Humble Pipe Line Company is constructing a high-pressure pump station in the Anahuac field, Chambers County, to carry the oil from the field through a six-inch line to the Barbers Hill line, which runs to the company's refinery at Baytown, Texas.

The one unit pump station has a 220-horsepower oil engine and a 5¼x24 high-pressure pump. The oil is gathered from the field by a 25-horsepower oil engine and a 9x18 low-pressure suction pump. The oil is gathered into a 5500-barrel storage tank and then will be pumped from the field. The first oil to go through the six-inch line will be run this week.

RUSSIAN PIPE LINE

Those in charge of pipe line construction for U.S.S.R. contemplate laying a pipe line from Neftedag field in Turkmenia to Krasnovodsk on the Caspian sea. At this point the oil can be shipped by tanker to Baku and Grosny, located on the far side of the sea. Refineries up the Volga river from Krasnovodsk and in Central Asia will, upon completion of the line, be logical recipients of Neftedag crude oil.

STATUTE CASES

Validity of three Texas laws are before court

Austin.—Of intense interest to oil men is a meeting of a three-judge federal court called to meet in New Orleans on Monday, July 22.

Cases involving the validity of two Texas statutes, and, indirectly, a third statute, will be submitted.

The first case is the case brought by the Clymore stripping interests of Corpus Christi to restrain enforcement of the new gas waste law against them. The other case, styled Hale & Weston v. Gerald Mann, secretary of state, attacks validity of the new Texas law requiring registration of all securities salesmen.

The gas case attacks the definitive portions of the gas waste law, and indirectly, the oil-gas ratio portions of the new market demand law. It makes a general attack upon these definitive sections which define gas wells, as being arbitrary and discriminatory.

Assistant Attorney General Archie Gray, who will represent the state in the case, pointed out that if such general allegations were good against one section of the act, they would be good against most other sections.

The securities act attack is important as it is expected to interpret, if not invalidate, the new securities law, now causing a lot of trouble among smaller Texas operators who purchase and sell in their own name. They want to know whether the word "securities" should be limited to stocks, or should include participating interest; and, if the latter, they resent undue interference with their business.

Moreover, that section of the act which requires the licensing of persons dealing in real estate or other "recordable" properties may apply to royalties, since courts in Texas have held royalties to be real property.

A. P. I. RESERVATIONS

Los Angeles committee now arranging for rooms

Los Angeles.—The Hotel Reservations Committee for the annual meeting of the American Petroleum Institute to be held in Los Angeles November 11, 12, 13, and 14, composed of C. E. Olmsted, chairman, and L. P. St. Clair, C. S. Jones, and J. A. Crawford, has been organized and is functioning.

Members of the Institute and others planning to attend this meeting have been requested to get their reservations in as early as possible in order to avoid the last-minute rush which so often results in many being disappointed because of inability to secure accommodations.

Reservations should be sent to Earle L. Southgate, care of the California Oil and Gas Association, 1217 Associated Realty Building, Los Angeles.

FREDERICK GODBER has been made managing director of Shell Transport and Trading Company, Limited, succeeding in that capacity Sir William Foot Mitchell who had expressed a desire to retire but who remains as a director.

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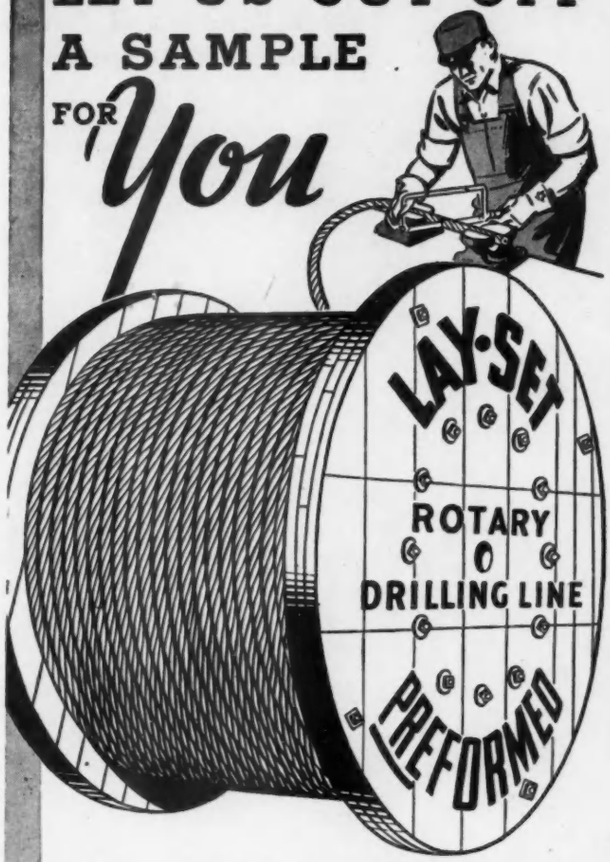

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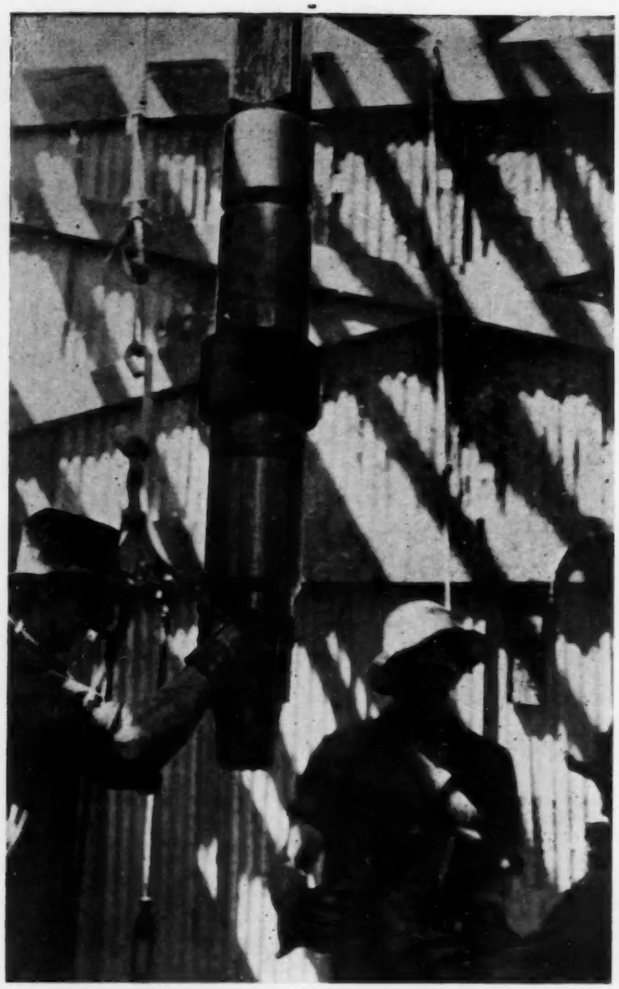

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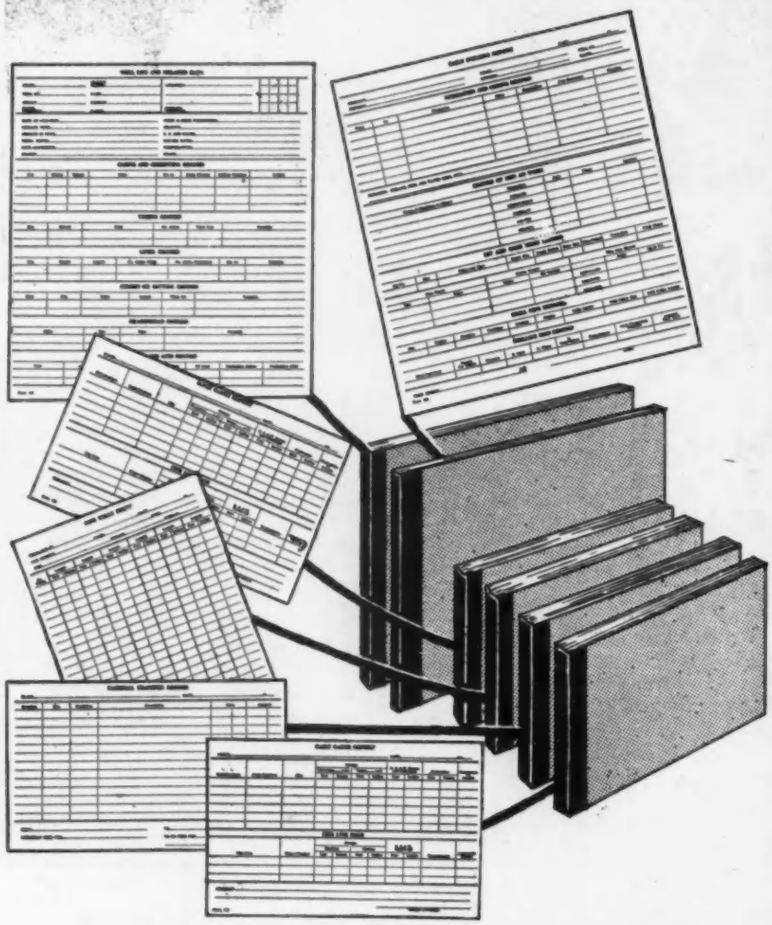

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FIELDS NAMED

By Oklahoma and Kansas Nomenclature Committee

Tulsa.—The Oil Field Nomenclature Committee of the Mid-Continent Oil and Gas Association, in a recent meeting held here adopted names for nine Oklahoma pools and 16 Kansas pools discovered since January 1, 1935, adopted changes in the nomenclature of several older Kansas pools and designated an official oil and gas map for that state. The nomenclature committee of the association works through the nomenclature committee of the Kansas Geological Society on all matters dealing with Kansas pools and has with a few exceptions adopted its suggestions.

Names of the 1935 discoveries and nomenclature changes are as follows:

OKLAHOMA

Name of Pool	Description	County
North Boston	30-22n-8e & 25-22n-7e	Osage
Marathon	24-22n-2e	Noble
South Langston	36-17n-1w	Logan
Seward	23-15n-3w	Oklahoma
Britton	19-13n-3w	Oklahoma
South Keokuk	14-10n-6e	Seminole
Moore (gas)	21-10n-2w	Cleveland
Wofford	8-6n-7e	Seminole
Grayson	13 & 14-6n-5e	Seminole

KANSAS

West Ferguson	21-30s-8e	Cowley
Murphy	7-35s-3e	Cowley
Gurney	23-14s-14w	Russell
Albert	30-18s-15w	Barton
Donovan	10-15s-15w	Russell
Sullivan	2-14s-15w	Russell
St. John	23-24s-13w	Stafford
Wenger	20-20s-1w	McPherson
Wenke	7-20s-10w	Rice
Kessling	10-20s-9w	Rice
Stumps	4-18s-10w	Rice
Eberhardt	14-19s-11w	Barton
South Lorraine	26-17s-9w	Ellsworth
Eichman	34-15s-13w	Russell
Ellsworth	29-15s-8w (shallow gas)	Ellsworth
Gouldner	16-18s-9w	Rice

Oil production in 28-15s-1w, Russell County, taken from Sellens pool and named Rude pool.

Sharpe pool, 7 & 8-20s-9w and Grove pool 20 & S½ 21 and 29-19s-9w, Rice County, included as Chase pool with old names abandoned.

Hartman and Blair's Rouback 1, Topeka lime producer in 2-14s-15w, Russell County, placed in Sullivan pool.

WELL CONNECTED

Cleveland wildcat gas well gets outlet

Oklahoma City.—Phillips Petroleum Company has connected Sinclair Prairie Oil Company et al's Franklin-Community 1, SE NW SE 21-10n-2w, new discovery well four miles southeast of here in northern Cleveland County, to the south end of the Oklahoma City pool and is taking gas for lifting purposes. On July 16 meters showed a taking of 23,800,000 cubic feet through one trap and producing against a back pressure of 2400 pounds per square inch. During that 24-hour period the well made 370 barrels of gasoline testing 71 degrees gravity. It is estimated to be capable of making between 175,000,000 and 200,000,00 cubic feet per day from second Wilcox sand at 7267 to 7288 feet, making it one of the largest gas wells ever completed in the state. Asa Lee Mayes, Inc., was ready to start at Faut 1, SW SW NE 27-10n-2w, one and one-quarter miles to the southeast.

Osage Discovery

WELL NEAR WYNONA FLOWS 150 BARRELS PER HOUR

WEEKLY STAFF REPORT

Pawhuska, Oklahoma. — Norbla Oil Company, J. A. Chevalier and H. A. Simon appear to have made a discovery of considerable importance in Osage 1, C SW SW 28-24n-8e, in the old Wynona area 10 miles southwest of there in west central Osage County. Pay in the Hominy-Wilcox series was topped at 2575 feet. With only a few feet of penetration it flowed a 40-barrel head in 30 minutes and when deepened to 2580 feet yielded 150 barrels in an hour. Considerable difficulty was experienced in holding the well under control. Field men were estimating it to be good for at least 2000 barrels per day while awaiting tankage for a test.

The Wynona pool was discovered in 1917 and has produced from several horizons from Peru sand at about 1600 feet down to Mississippi lime at about 2300 feet. Initial production in the upper horizons usually did not exceed 500 barrels so the new find is of real importance if it proves as big as is indicated. The area has been closely drilled in the upper horizons and many small domes have been defined.

TWO NEW WILDCATS

Started in Grant County during past week

Ponca City.—Grant County's popularity was further emphasized during the week when two new wildcats were announced to bring the total number of exploratory operations to five for the county. Shell Petroleum Corporation announced location for Foster 1, SE NW NW SE 30-27n-8w, three and one-half miles southeast of Medford in the east central portion of the county. Shell has owned the acreage for nine years but could not renew leases. Olson Drilling Company has the contract for a Wilcox sand test. Yingling et al announced location for Allen 1, SW SW SE 36-26n-4w, 12 miles southeast of Medford in the southeastern portion of the county. It also is a Wilcox sand test on trend.

Helmerich and Payne's Crouse 1, C NE SW 29-25n-8w, 18 miles northwest of Enid in the southwestern portion of the county, topped Simpson dolomite at 6438 feet and drilled to 6445 feet, reporting no showings. This test had top of the Woodford shale at 6354 feet after drilling approximately 500 feet of Mississippi lime. It was commenced in October, 1934, but lost the hole at 4258 feet and skidded the rig 60 feet to the north. L. H. Wentz et al's Wirtz 1, SE SE NW 22-28n-4w, seven miles northeast of Medford in the northeastern portion of the county, was ready to spud. In the block of 1760 acres Wentz owns 17/44; Stanolind Oil and Gas Company and Amerada Petroleum Corporation, 11/44; Gypsy Oil Company, 8/44; Twin States Oil Company, 4/44; Sinclair Prairie Oil Company, 2/44; and Tide Water Oil Company, 2/44. The block includes sections 15, 22, W½ 23 and the NW of 27 all in 28n-4w. Nearest production is seven miles to the southeast. Westgate Oil Company's Clark 1, NW NE NW 17-29n-4w, 14 miles northeast of Medford, was drilling below 1890 feet. It is an attempt to extend the trend upon which the Caldwell pool of Sumner County, Kansas, is located.

BRITTON SPACING

Hearing July 30 to fix 10-acre rule in new area

Oklahoma City—The Oklahoma Corporation Commission has set Tuesday, July 30 to hear the petition of Slick-Urschel Oil Company for 10-acre spacing in the new Britton pool in Section 19-13n-3w, northwestern Oklahoma County. The area involved in the petition includes SE Section 19, SW Section 20, E½ Section 30 and all of Section 29, all in 13n-3w.

The discovery well, completed by these operators recently, made 37,500,000 cubic feet of gas and 482 barrels of oil from second Wilcox sand at 6762 to 6790 feet.

NEARS OBJECTIVE

Important Carter County deep test at 6584 feet

Ardmore.—For the next few weeks Carter Oil Company's Humble-Williams 1, SW NE SW 27-2s-3w, in the old Fox field of northwestern Carter County, will be watched with considerable interest since upon it depends to some extent the possible future exploration for deep production in the southern portion of the state. For a number of years geological students in this highly complex area have thought the chances good for deep production below some of the well defined structures. Fox possibly is one of the best areas in which such a test could be drilled. The test went into Viola limestone at 5740 feet and entered top of the Simpson formation at 6525 feet after penetrating 785 feet of the lime. Carter geologists estimated the lime to have a probable thickness of approximately 800 feet at the time drilling was commenced. It is now drilling below 6584 feet in Simpson formation. Wilcox sand is the objective.

Sinclair Prairie Oil Company set 39 feet of 20-inch surface pipe and was waiting on cement to set in Stockton 1, SE SE SW 26-6s-2w, 15½ miles west of here and 12 miles southwest of the Brock pool in western Love County. This will be a deep test and according to the company's geological department no formation tops will be released until the test is completed. It is in an area the possibilities of which have been considered good for several years.

EDMOND POOL

Oklahoma City.—Johnson and Kemnitz (W. H. Riddle et al) Price 1, SW SE NW 30-14n-3w, one half mile north and one location west of production in the Edmond pool, four miles west of Edmond, was one of the most interesting tests in central Oklahoma during the week, since it may do much in the way of defining the probable northward limit of production on the structure. Pure Oil Company's Malm 1, SE SE SW 30-14n-3w, nearest production to it, is the second largest well in the pool with a potential rating of more than 20,000 barrels per day. Compared to the Malm the Price test was 30 feet lower on top of the Checkerboard lime and only 25 feet lower on the Oswego lime. It had base of the Pennsylvanian series at 6590 feet, missing Hunton and Viola lime and apparently going directly into the Simpson formation. Between 6595 and 6600 feet some white lime was found to have Hunton characteristics but most geologists were calling it Simpson dense. Between 6605 and 6610 feet the bit was in brown sandy dolomite of Simpson age. One report stated that Wilcox sand was encountered at 6610 feet. If this is in fact upper Wilcox sand it appears that the test will not be over 75 feet lower than Malm 1 and its chances for making a well are good.

OKLAHOMA INCREASES

Drilling activity shows 14 percent gain in year

Tulsa.—At the beginning of July Oklahoma had a total of 631 operations of which 114 were exploratory tests. There were 113 active locations, 50 active rigs, 343 active drilling wells, four inactive rigs and 25 inactive drilling wells. Among the wildcats there were 15 active locations, 12 active rigs, 56 active drilling wells, one inactive rig and 30 inactive drilling wells. This was an increase of approximately 14 percent over activities as of the first of the year.

Scouts made 42 first reports from 19 counties during the week, compared to 53 during the preceding week. Osage County had the lead with 10 firsts; Creek and Seminole Counties were tied

with five each; Pontotoc County had three; Hughes, Jackson, Pottawatomie and Stephens Counties, two each; and Beckham, Caddo, Cleveland, Cotton, Jefferson, Lincoln, Logan, Noble, Oklahoma, Okmulgee and Pittsburg Counties, one each.

The Oklahoma City and Edmond pools stole the new production lead from the Fitts pool when three wells in the former were rated at 26,545 barrels and one well in the latter was given a potential of 20,586 barrels. Total initial production from 25 oil wells was 106,577 barrels. Of this two wells in the Fitts pool accounted for 43,206 barrels.

The completion report included also one dry gas well with initial volume of 7,500,000 cubic feet, one abandoned location and 14 dry holes, a total of 41 completions, compared to 44 during the preceding week.

Five wildcat dry holes involved 11,467 feet of drilling, three old wells were deepened 300 feet and 33 others involved 107,924 feet, a total of 119-691 feet of drilling completed during the week.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BECKHAM COUNTY—		
West Oak Oil Co, Wooten 1, cne ne 11-9n-25w	¶7½	3483
CARTER COUNTY—		
Paul Robb, Burton 4, cwl sw ne 31-1s-2w	55	2424
Shell, Franklin 54, ne se ne 8-4s-3w	13	1160
Franklin 55, sw nw ne 8-4s-3w	36	1020
COMANCHE COUNTY—		
Carson et al, Barber 1, ne ne se 9-1n-11w	*	503
CREEK COUNTY—		
Magnolia, Mussellum 12, ne sw ne 8-18n-7e (otd 2495)	*	2496
Deep Rock, Wheeler 12, ne se nw 32-18n-7e	25	2190
Whitten, Colbert 1-A, nw se se 8-18n-12e	*	1650
GARVIN COUNTY—		
Anderson-Kerr & Roy Ranger, Rodki 1, nw nw se 17-4n-1w	lcn.	abd.
GREER COUNTY—		
Gled Oil Co, Simpson 1, ne nw ne 11-5n-22w	*	1261
JACKSON COUNTY—		
Garfield Buell, Kizziar 1, se se ne 2-2n-22w	*	2504
KAY COUNTY—		
Montour Oil Co, Summers 1, sw se nw 17-27n-2e	*	3716
LOGAN COUNTY— —		
Carter, Herren 1, ne nw ne 4-16n-4w	*	7191
NOBLE COUNTY—		
Stanolind, DeVore 5, nw se nw 27-22n-2w (pb 4916)	368	4964
DeVore 6, sw se nw 27-22n-2w	¶1-1100	4892
OKFUSKEE COUNTY—		
Carter, Welty 2, cse ne 2-11n-8e	2592	3902
OKLAHOMA COUNTY—		
Phillips, Freeburg 1, nw se ne 34-12n-3w	¶120-10,529	6467
Great Western 1, se sw ne 34-12n-3w	3753	6563
Traders 2, sw se sw 36-12n-3w	¶38-12,263	6443
Pure, Malm 1, se se sw 30-14n-3w	¶163-20,586	6700
OSAGE COUNTY—		
Barnsdall 11, nw nw sw 17-23n-12e	5	1605
Champlin Ref Co 11, sw nw nw 16-24n-7e	97	2625
Lewis Prod Co 8, se sw nw 21-24n-7e	1032	2689
Simon & Whitecraver 6, nw se nw nw 31-29n-12e	4	1027
PONTOTOC COUNTY—		
Phillips, Norris 12, nw sw sw 25-2n-6e	¶72-29,232	4258
Amerada, Norris 1, nw se se 26-2n-6e	13,974	4395
Sinclair Prairie, Wagner 1, sw sw nw 17-2n-7e	*	1864
Amerada, Smith 1, se sw nw 28-2n-7e	1601	4154
Moore, Craddock 7, ne sw sw 29-2n-7e (otd 4121)	3444	4217
Moore et al, Craddock 8, se sw sw 29-2n-7e	2608	4052
Huckleberry, Miller 1, se ne nw 27-5n-6e (pb 2675)	1609	2850
Sunray, McCall 17, se ne nw 17-5n-8e	*	2620
Gilmore 13, sw nw se 21-5n-8e	*	1040
Moudwy, Huddleson 1, cs½ nw nw 23-5n-8e	*	970
POTTAWATOMIE COUNTY—		
Magnolia, Billington 2, se se ne 11-7n-4e (otd 3954)	5	4157
SEMINOLE COUNTY—		
Harris & Hays, Harjo 1, ne se nw 11-6n-6e (pb 2801)	*	2935
Fleetborn Oil Corp, Stump 2, nw se sw 27-8n-8e	900	4234
Carter et al, Riddle 5, cn½ ne se 35-11n-6e	696	4030
STEPHENS COUNTY——		
William Angle et al, Cooper 1, ne nw nw 23-2n-7w	*	4264
McAllister Co, Nigh 2, se ne sw 11-2s-8w	¶5-50	2064
TULSA COUNTY—		
Whitten et al, Taylor 1, nw ne se 24-19n-11e	*	2231

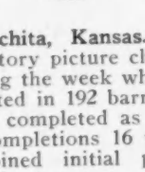
*Failures; †Junked; ¶Million cu. ft. gas.

ASK FLOODING PERMIT

Oklahoma City.—Hearing on the petition of Wiser Oil Company to flood its properties in Rogers and Nowata Counties has been set for Wednesday, July 31, by the Oklahoma Corporation Commission. Attorneys for the company assert that production from many of the properties has become so small that they can no longer economically be operated. Wells in Sections 21- and 22-24n-16e, in Rogers County, are making only 44/100 of a barrel per well per day and those in Sections 12- and 13-25n-16e, Nowata County, are averaging only 18/100 of a barrel per well.

LULL CONTINUES

Kansas pools pass peak, wildcats bulk new work



WEEKLY STAFF REPORT

Wichita, Kansas.—The Kansas exploratory picture changed considerably during the week when one wildcat test resulted in 192 barrels and nine others were completed as dry holes. Of the 31 completions 16 were oil wells with combined initial production of 6259 barrels, two were dry gas wells with combined volume of 26,500,000 cubic feet, three were abandoned locations and 10 were dry holes. A total of 85,589 feet of drilling was involved of which 30,696 feet was in the 10 wildcat tests, six feet in one old well and 54,887 feet in the remaining 20 completions.

Rice County took the lead in new work with seven first reports; Butler, Ellsworth and Sedgwick Counties each had three; and Barton, Graham, Harvey, McPherson, Reno, Rush, Russell and Sumner Counties, one each; a total of 24 compared to 17 during the preceding week. New work in the state has been slowing down considerably during the past several weeks with the passing of several large areas beyond their development peak. Principal among these is the Burrton pool of northeastern Reno County which led the state in activity for many months. A large percent of the new work now being announced is either wildcat or semi-wildcat which accounts for the smaller number of operations to the activity list each week. Russell and Rice Counties are now leading in total number of operations.

WEST KANSAS STRIKES

Important developments attract much attention

Hays, Kansas.—Stanolind Oil & Gas Company turned attention of the Kansas fraternity to southwestern Ellis County late in the week, when it cored a well saturated sand from 3620½ to 3624½ feet, the total depth in Pennsylvania 1, NW SW SE 12-15s-20w, 10 miles southwest of here. Operators probably will core ahead.

Harper May Produce

Prospects for the first oil production in Harper County seemed fairly good late in the week when Kessler et al's Wolfe 1, SW SW NE 17-33s-6w, topped Kansas City lime at 3820 feet and cored a showing of oil from 4000 to 4010 feet. Broken lime cored between 4012 and 4022 feet was dry and operators were cleaning out the hole probably to give the showing a test. It is 1½ miles northeast of Anthony in the east central portion of the county.

New Sullivan Pay

Gypsy Oil Company definitely established a fourth producing horizon in the Sullivan pool, four miles southwest of Russell in southwestern Russell Conuty. Its Ehrlich 1, SW SW NW 1-14s15w, stopped at 2523 feet in Tarkio limey sand where it made 153 barrels in four hours on the swab. Shut in 30 minutes it then made a 10-barrel natural flow and was to be placed on the pump.

Two miles west of production in the Russell pool, McMorrow et al's Atherton 1, NW NW NE 30-13s-14w, went into Arbuckle Siliceous lime at 3284 feet and at 3289 feet filled 1700 feet in nine hours with 30.8 gravity oil. This test is on leases farmed out by Indian Territory Illuminating Oil Company. It appears to be on a separate structure.

RENO DISCOVERY

Wildcat fills 3000 feet when deepened slightly

Haven, Kansas.—Haynes Bros., et al appear to have made an important discovery in their Mueller 1, SE SE NW 30-24s-4w, two miles northwest of here in southeastern Reno County. Deepened 10 feet to 3415 feet in the Mississippi chat it filled 3000 feet in a short time. It has been shut down since late in June, when 3365 feet of seven-inch casing was cemented. On the first test after drilling plugs it made seven and one-half barrels per hour on the swab.

Reno Wildcat Starts

Shell Petroleum Corporation entered the wildcat play in Reno County dur-

ing the week when it announced location for Recco 1, CW½ W½ SW 11-26s-9w, near Laredo and midway between the Cunningham pool, Kingman County, and Abbyville pool, Reno County.

Lario Oil and Gas Company continued as one of the most active of the exploratory companies. Its Better 1, NW NW NW 24-20s-11w, is three miles east of production in the Isern pool of Barton County and the same distance from the Raymond pool of southwestern Rice County. Its Eischer 1, NE NE NE 22-10s-18w, is five miles from Plainville, Rooks County.

Deep Test Showing

GAS SAND IN CAYUGA FIELD UNCHANGED DURING WEEK

WEEKLY STAFF REPORT

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Pryor & Lockhart, Herrington 1, ne ne nw 6-16s-12w	*	3387
Lario O&G Co., & McCoy, Dolechek 1, ne nw ne 13-16s-12w	*	3328
Lario O&G Co. et al, Travelers Life 1, nw sw sw 11-16s-14w	*	3410
BUTLER COUNTY—		
Buffington & Hodge, Harder 1, nw nw se 9-29s-4e (pb 1798)	20	1801
ELLSWORTH COUNTY—		
Twin Drilling Co., Rolfs 3, ne nw sw 13-17s-9w	*	lcn.
ELK COUNTY—		
Griffen & Bell, Sigler 3, ne nw nw 31-30s-11e	*	1625
Hicks et al, Lewis 1, sw se se 35-31s-10e	192	1675
GREENWOOD COUNTY—		
Oko Oil Co., Dehlinger 2, nw ne se 22-23s-13e	12	1768
HARVEY COUNTY—		
Twin Drlg. Co. et al, Ruth 1, sw sw sw 16-22s-2w	*	3758
McPHERSON COUNTY—		
McBride, Inc., Gustafson 1, cnw nw 12-19s-2w (otd 2967)	30	2973
OSAGE COUNTY—		
O'Neal et al, Bame 1, sw sw se 9-14s-17e	*	lcn.
RENO COUNTY—		
Amerada, Wilson 4, ne nw sw 23-23s-4w (pb 3400)	¶2½-95	3621
Marathon, Van Sickle 5, se sw nw 23-23s-4w (pb 3334)	¶3½	3860
Olson & Shell, Goering 4-A, nw se se sw 26-23s-4w	¶18-85	3380
Goering A 6, cs½ s½ sw 26-23s-4w	1239	3592
Gypsy, Tonn 1, sw nw se 16-25s-4w	*	4151
RICE COUNTY—		
Marathon, Grove 2, ne ne nw 29-19s-9w	165	3286
C. B. Davis, Dueser 2, ce½ ne sw 31-19s-10w	1464	3297
Fred Rust et al, Brown 1, ne ne ne 16-21s-6w	*	lcn.
ROOKS COUNTY—		
Phillips, Ordway 1, cne nw 6-9s-17w (pb 3434)	50	3451
RUSH COUNTY—		
Schermerhorn, Schroeder 1, ne ne ne 36-18s-16w	¶23	3636
RUSSELL COUNTY—		
Buffalo Oil Co., Shaeffer 3, ne nw sw 27-13s-14w	1156	3290
Aylward et al, Mills 5, se sw ne 4-14s-15w	365	3090
Billings et al, Witt 5, ne nw se 4-14s-15w	1249	3083
Kasishke, Inc., Berrick 1, sw se ne 23-15s-13w	*	3336
SCOTT COUNTY—		
Atlantic, Mark "A" 1, cse se 28-20s-33w	*	5645
SEDGWICK COUNTY—		
Phillips, Nolan 3, ne nw nw 21-28s-1e	*	3127
STAFFORD COUNTY—		
Helmerich-Payne, Hiesler 1, nw nw se 28-22s-12w	*	3717
TREGO COUNTY—		
Alma & McNelley, Sampke 1, cse se 10-11s-23w (pb 3645)	25	4025
WOODSON COUNTY—		
Nye & Kilby, Schaeffer 5, csl n½ se sw 31-23s-14e	100	1575
Oko Oil Co., Kimball 12, nw ne sw nw 18-24s-14e	12	1678

*Failures; †Junked; ¶Million cu. ft. gas.

Palestine, Texas. — Status of Tide Water Oil Company and Texas Seaboard Oil Company's N. N. Wills 21-A, first deep test for the Cayuga field, Anderson County, with heavy gas pressure showing from the Trinity sand section, failed to change the past week in progressing near the 8800-foot level. Carrying open hole below 4594 feet, where 9⅝-in pipe was cemented on top of the Georgetown lime, the owners have moved in a new string of seven-inch pipe to be run when the first oil saturated lime zone is encountered. Volume of gas picked up in the upper portion of the Trinity series has been sufficient to require heavy rotary mud to avoid blowouts.

Anticipating success with their deep well project at Cayuga, the partnership has taken lease protection on a number of potential Trinity sand producing areas in East Texas. They acquired earlier this year the deep production rights on nearly all the acreage surrounding the Van field; the Murchison area in Henderson County, and other areas known to have unusual structural relief, but not suitable for Woodbine sand production. A strike in the Trinity at Cayuga would automatically place a premium on leases situated on such structures.

C. D. Neff et al's H. G. Small 1, located in southwestern Henderson County and about three miles north of the Cayuga field, was eliminated as a potential producer the past week in developing salt water from sand at 4030-4054 feet.

In Limestone County, Yandell Rogers, W. A. Reiter et al's J. M. Tidwell 1, located about 2½ miles southwest of the Mexia field, entered the Woodbine section at 2939 feet, with an elevation of 456 feet, and had cored to 2956 feet. This wildcat is credited with being higher on structure than nearby dry holes drilled some years ago, and encountered a thin Austin chalk section, which was logged at 2546-2733 feet.

Third Rusk Well

Production gauge given J. T. Wood and Young's New Birmingham 4, the third oil producer for the Rusk field, Cherokee County, credited it with pumping 220 barrels fluid, 10 percent salt water, daily from Woodbine sand at 5173-5182 feet, or 4706 feet sub-sea. Shell Petroleum Corporation's New Birmingham 1, offsetting the southeast corner of the discovery lease, developed a fishing job at 4561 feet after logging Pecan chalk at 4046-4438 feet, with an elevation of 487 feet.

Revival of oil exploration work in the Long Lake field, southwestern Anderson County, is likely to follow the completion of Tide Water Oil Company and Texas Seaboard Oil Company's Shaw & Cern 1, which gives promise of extending the oil area several miles to the north from sand at 5354-5377 feet. Production test was in progress late last week, with 5½-inch pipe cemented at 5354 feet. It has an elevation of 300 feet, and passed up prolific gas sand before entering the horizon carrying oil saturation.

Location has been reinstated by the partnership for the drilling of a test on the G. W. Burkett 645½-acre tract, situated across the Trinity River in Leon County and about one mile due east of Monnig 3, a completed gasser.

125 COMPLETIONS

Are made in East Texas during the past week

Tyler, Texas.—Densely drilled leases in the East Texas field continued to figure prominently in the list of completions each week. There were 125 completions reported the past week, including two failures and a junked test, and 39, or about 31 percent of the total, were spotted on leases that have a density of one or more wells to five acres or less. Majors completed three wells on leases that average less than five acres per well.

Magnolia Petroleum Company was the first major to temporarily enforce a 100 percent cessation of field work, while Humble Oil & Refining Company, Sun Oil Company, Shell Petroleum Corporation, Marathon Oil Company, Gulf Production Company and others are reported to be tapering off on field work to await the pending change in method of prorating the field. Magnolia Petroleum Company finished stacking its rotary rigs in completing J. W. Stone 3, Longview area, as a 100 barrel pumper, and its A. T. Tyiska 7, a flowing well in Smith County. However, the company has derricks up for the time being inactive, on four locations to be drilled later.

Independent operators accounted for a total of 66 of the completions the past week, or about 53 percent of the

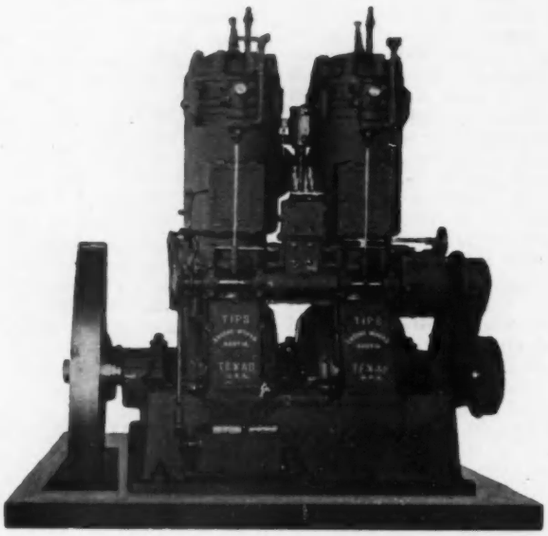
total. The remainder were drilled by 12 majors.

The two dry holes completed the past week were on edge locations on the north and southwest flanks of the structure. Sun Oil Company's J. St. Clair 2, SEc of 20-acre lease, Juan Vargas Survey, Smith County, tested water after drilling to 3761 feet with machine, and on the north side of the field in Upshur County, the Peckham Oil Company's E. H. Hamilton 2, one location north of the company's Hamilton 1, Wm. King Survey, made water in sand at 3722-48 feet, with an elevation of 402 feet.

As a precautionary measure against early appearance of bottom-hole water 21 of the completions reported the past week penetrated from a fraction of a foot to five feet of the Woodbine sand section in making producers. Eight of this number took in one foot or less of the pay because of the water hazard.

Ten completions lacked sufficient energy to register a natural flow, and potential gauges were established by swabbing on six, while the remainder were placed immediately on the pump.

MARVIN J. PEEK, an employe of United Gas Company in Houston for the past seven years, died in a local hospital on July 14. He is survived by his wife, son, mother, two brothers and five sisters.



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TIPS ENGINE WORKS

Manufacturers and Jobbers
AUSTIN, TEXAS

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Arkansas F. O. Co., Beall 8 (79.47-ac)	9600	3683
Atlantic, Young 10-C (63-ac)	8500	3672
British-American, Kangerga 9 (69.78-ac)	9200	3635
J. D. Stone 9 (66-ac)	9500	3652
Bryant et al, Worrell 2 (5-ac)	240	3600
Cockburn & Boase, Thrash 4 (9.77-ac)	6500	3778
Cook Drlg. Co., Alford 4-A (14.67-ac)	600	3670
Dearing & Son & McBride, Wooley 1 (5-ac) blk 20	500	3650
Gant-Garvin-Wegener, Harris 8 (394.58-ac)	600	3630
Gulf, Mayfield 7-D (53.9-ac)	7200	3640
Hayman et al, Green 1 (4-ac)	6000	3819
Humble, Kangerga 13-B (124.6-ac)	8500	3654
Silvey 18-A (142.85-ac)	9300	3752
Walker 15 (125-ac)	11,000	3657
Wooley 25 (201.53-ac)	9000	3668
Wooley 6 (55-ac)	8000	3723
H. L. Hunt Prod. Co., Bradford 4-E (42.84-ac)	300	3630
W. R. Fair 21-A (136.72-ac)	10,000	3638
Hunt & G. H. Vaughn, Young 3 (9.82-ac)	9000	3746
Illinois Oil Co., Mayfield-Shell 20 (197.1-ac)	6400	3823
Mayfield-Shell 22 (197.1-ac)	5500	3843
K. & P. Oil Co., Alford 3 (6-ac)	1000	3700
C. H. Lyons & Neeley, Cole 2 (6-ac)	7000	3764
Mabee Cons'ld Corp., Maxwell 3-A (40.24-ac)	†	3500
Magnolia, Tyiska 7 (116.94-ac)	6500	3805
Marathon, Mills 9 (45-ac)	1500	3753
Moores 25 (193.8-ac)	7500	3698
Mart'n-Gladish & H. B. Owenby Drlg. Co., Wooley 1 (1.8-ac)	200	3627
McCutchin et al, Wright 4, Tr. No. 5	5600	3714
Miller Prod. Corp., Bradford 15 (16.17-ac)	500	3640
M. Nathan et al, Hale 2 (10-ac)	1000	3601
Ortiz Oil Co., Giles 7 (15¼-ac)	1000	3738
Owenwood Pool No. 3, Mullins 7 (30-ac)	9000	3754
Retsal Drlg. Co., Maxwell 7 (34.93-ac)	250	3590
A. J. Rife et al, Giles 4 (7½-ac)	1000	3690
Schroeder et al, Jobe 3 (5-ac)	480	3685
Sinclair Prairie, Kinney 59 (579.2-ac)	9100	3629
Mayfield 49-A (374.74-ac)	5000	3776
Wilson 22 (124-ac)	5600	3640
Wright 18 (107.62-ac)	9200	3698
Sun, St. Clair 2 (20-ac)	*	3761
Stanolind, Schuyler 7-B (73.57-ac)	1000	3692
Texas-Canadian Oil Corp., Irion 6-C (27-ac)	5500	3741
Ward Oil Corp., Finney 14 (74.51-ac)	7000	3708
KILGORE AREA—		
Arkansas F. O. Co., Hughey-Ross 24 (220-ac)	9000	3547
Atlantic, Andrews 17-A (110-ac)	9800	3595
Bay Oil Corp., Moore 14 (106.63-ac)	6000	3794
Champlin-Bass, Robertson 1	500	3639
Constantin et al, Tucker 2 (296-ac)	2000	3654
Empire, Christian 13 (103.05-ac)	6500	3763
Gralenor Oil Co., King 7 (78.33-ac)	9000	3664
Gulf, Brown 42 (263.52-ac)	6500	3520
Christian 27-C (277.85-ac)	8600	3663
Hilburn 77 (172.3-ac)	6500	3590
Holt 23 (185.12-ac)	4500	3604
King 4 (29.57-ac)	7000	3590
Sexton 7-A (54-ac)	7000	3692
Strong 13 (137.3-ac)	4500	3703
Houston Oil Co., Laird 9 (70.51-ac)	9200	3658
Humble, Crim 160 (914.51-ac)	8500	3658
Laird 15-A (100-ac)	6500	3665
Laird 35-A (230-ac)	4000	3722
Invincible Oil Co., Weiss 24 (81.27-ac)	11,000	3530
Iowa Payne Oil Co., Walker 1-B (8-ac)	9800	3614
Jones-Doss Oil Co., Martin 7 (47-ac)	5600	3731
Lyons et al, Williams 1 (2.61-ac)	240	3680
McMahon et al, Spear-Laird 13 (92¼-ac)	7700	3657
Moss et al, Marshall 13 (38.93-ac)	7000	3551
Navarro Oil Co., Green 7 (23.27-ac)	5000	3568
Pace, Tr., & Allen, Elder 2 (1.27-ac)	4500	3596

Company, Well and Location	Init. Prod. Bbls.	Depth
Potter Bros. P. L. Co., Barton 5 (9-ac)	1000	3614
Retsal Drl. Co., Taylor 2 (10-ac)	750	3644
Rogers & Rozel Oil Corp., Sexton 7-B (35-ac)	1000	3678
Sells Pet., Inc., Williams 6 (20.44-ac)	9800	3551
Shell, Laird 6-B (48.82-ac)	7500	3597
Russell 22 (126-ac)	7000	3643
Willoughby 13 (57.7-ac)	5500	3604
Sinclair Prairie, King 5-B, Tr. 4 (50½-ac)	8000	3490
Lockhart 20 (133.12-ac)	8500	3687
Tide Water, Strong 14 (113.1-ac)	8000	3638
H. J. Wilder, McElreath & Suggett, Brox 3 (20-ac)	7500	3695
LONGVIEW AREA—		
Arkansas Drl. Co., Williams 1 (88-ac)	3600	3686
Arkansas F.O. Co., Killingsworth 2 (90-ac)	6400	3618
Whittaker 13 (75.52-ac)	9000	3543
Atlantic, Burnsides 28-B (214-ac)	10,400	3523
Burnsides 29-B (214-ac)	10,000	3520
Duncan 21 (154.7-ac)	9800	3645
Moore 68 (447¼-ac)	12,000	3528
Moore 76 (447¼-ac)	10,000	3537
Atlantic & Wadley, Turner 26 (159.28-ac)	10,500	3554
Atlantic & Woodley, Castleberry 5 (35-ac)	10,300	3660
Cabot Carbon Co., Graves 14 (105.9-ac)	6200	3631
C. & G. Oil Co.-Alger Oil Co., Harris 18 (91.54-ac)	8000	3522
Coates et al, Buie 1 (13½-ac)	8000	3608
Conservative Oil Co., Mackey-Humble 5 (147-ac)	7600	3678
Eastern Texas Pet. Co., Dunbar 11 (169-ac)	240	3643
Empire, Bander 14 (93.17-ac)	8000	3619
Falvey et al, Doby 4 (20-ac)	7700	3763
Flanagan & C. S. Bazzell, Thomas 4 (15-ac)	8500	3588
Gulf, Bozeman 16 (110.68-ac)	7000	3620
Sheppard 47 (335-ac)	7200	3546
Humble, Armstrong 22 (155.7-ac)	7300	3587
Hughes 39 (245.6-ac)	6800	3706
Johnson 18 (98.8-ac)	4600	3712
McFarland 8 (66½-ac)	6500	3585
Phillips 10 (82¾-ac)	4500	3681
Humphrey et al, Thomas 6 (50-ac)	1000	3632
Thomas 7 (50-ac)	1500	3608
Lesh, McCall & Sigler, Young 12 (50.66-ac)	11,000	3551
Magnolia, Stone 3 (66-ac)	100	3614
Oils, Inc., Stancil 7 (32.4-ac)	5500	3667
Stancil 9 (32.4-ac)	5000	3675
Peckham Oil Co., Hamilton 10 (150-ac)	*	3748
Wells 9 (40-ac)	9100	3726
Rancho Oil Co., Edwards 12 (106-ac)	6000	3684
Sanford & Meadows, Morgan 1 (20.8-ac)	5500	3705
Selby O&G Co.-Lewis Prod. Co., Snavely 15-A (214¾-ac)	5500	3573
Shell, Slaton 15 (123.65-ac)	7600	3645
Sun, Satterwhite 13 (89.85-ac)	8200	3630
Texas Co., Clark 10 (60-ac)	7000	3663
Culpepper 3 (61.57-ac)	500	3729
Tide Water-Buttram, Nicholson 18 (800-ac)	4000	3649
Woods-Vierson, Corbin 5 (20-ac)	6500	3581
McKinley 11-B (84-ac)	8200	3573
Yount-Lee, Denson 9-A (61.33-ac)	8000	3646
McKinley 11-B (84-ac)	8200	3573
ANDERSON COUNTY (Cayuga Field)—		
Roeser & Pendleton, Ware-Wilson 2	1500	4080
CHEROKEE COUNTY (Rusk Field)—		
Wood & Young, New Birmingham 4	200	5182
HENDERSON COUNTY (Cayuga Field)—		
Upchurch et al, Loper 1 (3½-ac)	¶30	4096
VAN ZANDT COUNTY (Van Field)—		
Pure, Clark 12 (24-ac)	28	2922
CHEROKEE COUNTY—		
Florence Oil Co-H. A. Baker, Smith 1	*	4895
RUSK COUNTY—		
Lamb et al, Leath 1	*	4725
SMITH COUNTY—		
Bowers et al, Landers (Holland) 1	*	3662
HARRISON COUNTY—		
H. H. Alvord, Mitchell 1, J. Lipscomb sur	¶¼	2361
PANOLA COUNTY—		
Socagee Oil Corp, Jeter 3, Jno. Womack sur	¶1	1059
SHELBY COUNTY—		
Litchfield et al, Windham 1, A. H. English sur	*	3515
SAN AUGUSTINE COUNTY—		
Hunter Co, Long-Bell 1, P. Galloway sur	*	2550

*Failures; †Junked; ¶Million cu. ft. gas.

Start Deep Search

IN ARCHER COUNTY RESULT OF RECENT DISCOVERY

Wichita Falls, Texas.—Search for deep production in Archer County is attaining sizable proportions since the recent discovery of a new oil horizon at the 2800-foot level, and the revival of drilling in the Chalk Hill field, where oil is produced from the 2200-foot and 3700-foot lime zones. Deep Oil Development Company and Lindsay Drilling Company, finders of the Chalk Hill area, have two more tests underway on their Luke McCrory-Wilson, lease 4-A 40 acres, one to be drilled to the Canyon pay at the 2200-foot level, and the other to proceed to the Strawn near the 3700-foot level as it is a west offset to their single completion in the deep zone. Their McCrory-Wilson 2, lease 4-A, was recently completed flowing 31 barrels hourly from Canyon at 2206-19 feet.

Magnolia Petroleum Company's Luke McCrory-Wilson 1, SEc SW¼ of Wm. Walker Survey, situated about one mile west of the Chalk Hill field, was drilling below 1600 feet, and will try for production in the Strawn if the upper and lower Canyon horizons prove barren. Garson and Siegel's W. D. Pace 1, near north line of block 163, Robt. Carson Survey, A-79, was drilling below 1800 feet, seeking production from the lower Canyon lime, which yielded a small pumper recently about one-third of a mile to the north. The latter strike was made by Grace & Woods' J. H. Turbeville 1 from broken sandy-lime section at 2830-47 feet, resulting in a 25-barrel pumper. These operators were obligated to drill three tests, according to reports, if the well exceeded 41 barrels daily. L. T. Burns et al's Weinzapfel 1, lot 99, block 4, Clark & Plumb Sub-Division, and Reno Oil Company's H. Wilmot 10-A, near southeast corner of block 4, ATNCL Survey, are contrated to drill to the 3000-foot level in order to test the upper and lower Canyon zones.

Two Cooke Wildcats

Two deep wildcats for Cooke County are involved in lease blocks acquired recently by independents. Smyes Drilling Company, Ardmore, Oklahoma, is reported to be making preparations to carry out a 5000-foot contract on a block of 6500 acres, centering about two miles southwest of Big Indian Oil & Development Company's B. W. Davis 1, center lot 9, Fannin County School Survey, which was completed in March, 1925, as a small well from sandy-lime at 3519-29 feet, and continues to produce about 10 barrels oil daily. The new location will be near center of lot 3, section 2, University League No. 7. Deskin & Bryant have acquired a 5000-acre block, centering about two miles to the southeast of the above producer, and propose to fulfill a 6000-foot contract, with location near lot 2, block 3, University League No. 6.

Childress County

Alma Oil Company's Mollie Low 1, southeastern Childress County wildcat, failed to attain a water shutoff in plugging back with cement from original depth of 5653 feet, and will probably be carried deeper to try for a second producing bone. This well broke into the limelight last May with good prospects of making an oil producer from lime, tentatively identified as the Canyon, at 5633-53 feet, and on prolonged swabbing tests averaged 150 barrels of fluid daily, including about 50 barrels of high gravity oil. R. C. Larkin, G. D. Warr et al's E. A. Gibson 1, situated about five miles to the northwest, was drilling at 1400 feet late last week. In Hardeman County, Lawrence S. Flannery, Inc.'s J. M. Williams 1, about two miles south of Quanah, stuck drill pipe after drilling to 5022 feet, and is now fishing after severing the string near the 1800-foot level with a nitro shot.

SECOND PRODUCER

At Keystone-Walton tests in 10 barrels fluid hourly

San Angelo.—Second flowing oil producer for the Keystone-Walton structure, north central Winkler County, was in process of completion late last week. Sid Richardson, Fort Worth operator who launched the first activity in the area last December, placed J. B. Walton-Pure 1, NWc SW SW Section 1, Block B-3, PSL Survey, on production July 18 with a natural flow of 10 barrels of fluid per hour, including about 23 percent drilling fluid, and gas volume rated at 2,000,000 feet daily from dolomite lime at 3524 feet, or 577 feet below sea level.

Gulf Production Company's Keystone 1, situated about one half mile to the southeast, proved the structure for oil production the previous week, was preparing to pull tubing to install wall packer preparatory to treating the lime with acid. This well averaged about 90 barrels of 35 gravity oil daily the past week, with the volume of drilling fluid appearing with the production declining to about 15 barrels daily. However, the gas yield increased

to about 9,000,000 feet daily. The well is bottomed in dolomite lime at 3500 feet, or 558 feet below sea level, with seven-inch pipe cemented at 3175 feet. The tubing packer is intended to concentrate the acid in the oil saturated lime encountered near the 3500-foot level.

Operations were started the past week by Gulf Production Company on three more tests in the area, making a total of nine projects for the company on as many separate sections. This unusual activity on a wildcat block was made necessary by the terms of the lease contract, which expires August 22. Gulf Production's Keystone 2, NWc Section 17, Block B-2, situated about three miles southeast of the discovery well, is installing standard tools after drilling to 3702 feet, or 761 feet sub sea, with rotary. Formation tester used at the latter depth failed to show oil or gas. Some water appeared with the fluid in the tester, but it is presumed to be wash water in spite of the fact that the test is about 190 feet lower on structure than the original producer. Keystone 3 and 6 have been delayed by casing trouble after drilling to 3219 feet and 3490 feet, respectively. Keystone 4 was drilling below 3200 feet, and Keystone 5, which occupies the highest structural position of the group in topping the first brown lime section at 2090 feet, or 862 feet sub sea, has cemented 7-inch pipe at 3149 feet. Keystone 7, 8 and 9 have been spudded.

Pure Oil Company, owner of about 1500 acres situated to the north, west and south of production in the Keystone-Walton area, is negotiating for assignment of its holdings to a large company on an overriding and joint participation basis. Consummation of a deal will be followed by the starting of one or more wells, including a west offset to the producer on the Walton land.

Winkler County added a new wildcat project and two new locations for the Halley pool the past week. Mascho Oil Company is to explore a block in the northeast corner of the county, having made location on the R. M. Evans land near center of NW¼ Section 46, Block 73, PSL Survey. In the Halley area, Sun Oil Company is preparing to move in rig to drill Halley 2, situated 440 feet out of the southeast corner of Section 24, Block B-12, PSL Survey, and in the meantime is making a pumper after plugging back its Halley 1 from sulphur water at 3170-73 feet to 2732 feet. Skelly Oil Company, discoverer of the pool, made location for Halley 4, near center of east line of NW¼ Section 25, Block B-11, a west offset to its Halley 2, which has been junked at 3090 feet, with a big gas yield.

High structural position occupied by Phillips Petroleum Company and Pure Oil Company's Clyde Cowden 1, SWc NW Section 14, Block 44, T&P Ry. Survey, T-1-S, situated 1¼ miles southeast of nearest production in the Scharbauer-Goldsmith field, Ector County, is reflected by the appearance of heavy gas production in the upper section of the lime, which was logged at 3660 feet, or 3560 feet sub sea. This well blew out at 3733 feet and made 9,068,000 feet of dry gas, and on drill stem test at 3812-3955 feet was rated at 3,000,000 feet daily. Oil production is due near the 4100-foot level. The partnership's Cowden 2, located 2¾ miles southeast of production, cemented 7-inch pipe at 3798 feet.

Landreth Production Corporation et al's two tests in the north portion of the Scharbauer-Goldsmith area, drilled through the oil and gas horizon and into bottom hole water, and have been plugged back. B. H. Blakeney 1-B, SWc Section 22, Block 44, T-1-N, is awaiting acid treatment in oil saturated lime at 4220-60 feet after plugging back from 4300 feet to 4375 feet. Top of lime was called at 3830 feet, or 658 feet sub sea. Scharbauer 1-A, located 1½ miles northeast of the discovery well, plugged back from water at 4360-80 feet to 4200 feet, and will be shot with nitro. Top of lime series was logged at 3685 feet, or 537 feet sub sea. Both tests are likely to make small oil producers. The area received its first pipe line connection July 5, when Gulf Pipe Line Company started running oil from its big producer on the Goldsmith-Scharbauer land.

Development of a gas show followed by the loss of rotary returns at 4057-60 feet brightens the outlook for production in Sun Oil Company and Atlantic Oil Producing Company's Holt 1, SWc Section 5, located 2½ miles northwest of the nearest production in the North Cowden field, Ector County. Seven-inch pipe was cemented at 4047 feet, and standard rig moved in to deepen to the white lime

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means Field)—		
Humble, R. M. Means 4	1500	4520
CRANE COUNTY (Gulf-Waddell Field)—		
Gulf, M. F. Henderson 1	1900	3523
HOWARD COUNTY—		
The California Co, A. M. Bell 6	150	2785
Int'l Pet. Corp, Kloh 2	410	2750
Kloh 4	980	2743
PECOS COUNTY—		
Samwan Oil Co, J. Masterson 2	56	1446
RUNNELS COUNTY—		
Drew Beams et al, W. F. James 1	*	2476
STONEWALL COUNTY—		
Barnsdall Oil Co, J. Young 1	*	3083
UPTON COUNTY—		
Amerada, Lee R. Lane 2	381	2209
TP Coal & Oil Co, J. F. Lane 3-E	667	2253
WINKLER COUNTY (Sayre Field)—		
Sayre Oil Co, J. F. Lane 2-A	486	2966

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Gulf, B. F. Block 4	265	3075
A. E. Johnston et al, J. W. Eller 1	¶127	2630
J. R. McGill & Haze, E. Cooper 3	627	3041
Texoma Nat'l Gas Co, J. J. Crutchfield 1-E	¶54	2727
COLLINGSWORTH COUNTY—		
Tom F. Hunter et al, H. B. Hill 1	¶1¼	2300
GRAY COUNTY—		
Danciger Oil & Refineries, Inc, J. E. Wright-Shell 5-A	3300	2865
Humble, H. H. Merten 6	25	3232
HUTCHINSON COUNTY—		
Texilvania Oil Co, E. Thompson 1	37	3027
MOORE COUNTY—		
Texoma Nat'l Gas Co, J. T. Sneed 5-P	¶18¾	3065
WHEELER COUNTY—		
Helena O&G Co, P. M. Keller 8	3195	2462
A. S. Martin & F. F. DuBose, G. H. Schwarting 1	50	2200
Shell, W. B. Bush 7	180	2558
The Texas Co, P. M. Keller 10	120	2525

*Failures; †Junked; ¶Million cu. ft. gas.

H. J. BUSSA, of Bussa Oil Company of Texas, has returned to San Antonio from a business visit into the Northern Louisiana district.

250-BARREL WILDCAT

Is indicated in eastern Shackelford County

Breckenridge, Texas.—Swabbing test given Pitzer & West's G. T. DeLafosse 1, eastern Shackelford County wildcat, indicated a daily yield of about 250 barrels of high gravity oil from lime at 4453-57 feet. Top of the lime section, tentatively identified as the El-

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
A. & D. Oil Co, Benson-American 1-B, sec 1808	15	829
Bourland & Gannon, Duckworth 1, blk 5	*	1411
Burns et al, Albers 6, blk 117	55	1245
Albers 7-A, blk 117	22	1245
Cockburn et al, Andrews 8, sec 2437	10	1402
Cullum & Alexander, Falls 37, blk 23	30	1158
Cullum & Sinclair Prairie, Falls-Scranton 16, blk 17	100	1129
Florey Oil Co, F. Brazina 6, sec 2410	40	1441
Hardesty & Elliott Oil Corp, Richardson 17, sec 2424	40	1452
Richardson 18, sec 2424	60	1407
Jackson et al, Nichols 1, sec 39	*	1702
A. P. Nicholson et al, Williams 1	*	625
Perkins-Cullum Oil Co, Falls 186, blk 5	75	1180
Pet. Producers Co, R. W. Campbell 1, blk 1	*	1500
J. T. Richardson 11-E, blk 1	90	1258
White & Duncan, S. Webb 8-B, blk 4	13	697
BAYLOR COUNTY—		
Consolidated & Pet Prod Co, Portwood 13-D, sec 1587	320	1385
Ray & Staniforth, Portwood 6-A, sec 1587	225	1385
COOKE COUNTY—		
Bridwell Oil Co, T. T. Harris 1	*	1980
A. J. Erlewine et al, A. J. Dennis 5	*	1665
Harper & Knappenberger, Nat Piott 2	250	731
F. W. Merrick, Inc, F. Knabe 4, blk 6	38	786
JACK COUNTY—		
A. P. Nicholson et al, John Pursley 1	*	502
MONTAGUE COUNTY—		
Chas. W. Alcorn et al, J. G. Howard 1	*	2500
Conoco, J. W. Lawler 10	40	1743
FHE Oil Co, D. A. Lauderback 1	43	1248
Kahn & Fisher, John Vitali 1	*	2518
I. B. Perskey et al, W. A. Reed 1	50	1750
WICHITA COUNTY—		
L. T. Burns et al, T. F. Mitchell 10, blk 7	2	430
T. F. Mitchell 11, blk 7	4	432
T. F. Mitchell 12, blk 7	2	300
Geo. W. Cooper et al, Waggoner Bros. 32-D, blk 13	*	799
Horwitz & Oldham, W. T. Hodges 3	40	1636
Tom F. Hunter, Waggoner Bros 34-A, sec 1	*	1761
Waggoner Bros 35-A, sec 8	*	681
Waggoner Bros. 36-A, sec 8	*	670
King Royalty Co, Waggoner Est 1-K, sec 2	*	2007
WILBARGER COUNTY—		
Riner & Massie, Waggoner Est 14-A, sec 22	50	1878
Waggoner Est 24-A, sec 22	150	1895
YOUNG COUNTY—		
Cato Bros, G. B. Hamilton 1-B, sec 1393	10	922
Malcolm Farmer et al, J. H. Newman 1, sec 2	*	703
Fisher & Hunt, E. W. Hunt 1, sec 88	*	1102
Fresno Oil Co, J. M. Kirkland 3, sec 2249	90	688
Fultz & Kay, W. B. Harrison 1, sec 3407	200	2717
L. G. Hawkins et al, J. M. Kirkland 8, sec 2249	210	705
D. O. Johnson et al, R. C. Stringer 1, sec 252	*	728
Kittery Oil Co, J. B. Daniels 4, sec 164	20	879
J. H. Kleiner et al, J. Graham 7, sec 2249	3	668
Nash-Windfohr Oil Corp et al, Graham-Vick 18, sec 3410	15	2600
Ports & Rogers, Grant 2, sec 2	*	469
Solo Oil Co, O. Deitrich 3	*	1164

*Failures; †Junked; ¶Million cu. ft. gas.

lenberger, was logged at 4435 feet. This well is near the northeast corner of Section 1549, TE&L Company Survey, and several miles northeast of production developed from the same general horizon by Milham Corporation in 1926 and 1927. The DeLafosse test gave promise of making a flowing well when the lime zone was penetrated, with open hole below 3924 feet, and operations were halted to cement 5 3/16-inch pipe at 4416 feet. The owners plan to deepen and treat the lime with acid.

Humble Oil & Refining Company's J. T. Davis 1-A, projected Ellenberger line test on an 18,000-acre block in Throckmorton County, was drilling below 3850 feet late last week.

In eastern Brown County, W. W. McDonald, R. B. Campbell and Danciger Oil & Refineries, Inc.'s M. L. Smith 1, G. A. Parker 1, which is seeking production from the Hickory sand below the Ellenberger, a potential horizon tested by only a few wells in West Central Texas, has progressed to 2730 feet. Top of Ellenberger was logged at 1485 feet, with an elevation of 1433 feet.

PANHANDLE LIMITED

Texaco takes only 75 barrels from each well

Pampa, Texas.—Operators in Wheeler County, Texas Panhandle, are bearing the brunt of the production penalty imposed by The Texas Company effective July 16, whereby purchases and pipe line runs will be limited to 75 barrels daily from any given well. The company reduced its crude takings about 1650 barrels daily, and applied the restrictions to its own leases as well as outside connections. Officials of the company stated that the order was necessary because of its supply of Panhandle crude being in excess of current requirements. No other purchasers have adopted the abbreviated buying plan, and none will agree to absorb the volume of oil turned back by The Texas Company.

Carson and Hutchinson Counties escaped the cut by reason of none of the wells served by The Texas Pipe Line Company having an allowable in excess of 75 barrels daily. Only one well in Gray County was affected, and it proved to be a recent completion on The Texas Company's M. B. Davis lease, near Le Fors. The Texas Company serves 85 wells in Wheeler County, and 22 of these were cut back to 75 barrels daily including five on leases owned by The Texas Company.

Danciger Oil & Refineries scored an unusually large producer in the northeast extension of the old Finley-Brown field, Gray County, in completing J. E. Wright-Shell 5-A, SWc NW NE Section 13, Block 3, I&GN Ry. Survey flowing 3350 barrels of high gravity oil and 13,000,000 feet of gas daily from granite wash formation at 2765-2865 feet. The company's Wright-Shell 6, situated in the northwest quarter of the 160-acre lease and offsetting four sections of fee land held by Magnolia Petroleum Company, was drilling below 2300 feet.

Abilene Oil Company, Kansas concern, has entered eastern Gray County as a producing unit through the purchase of Cambrian Oil Company's L. H. Webb 80-acre lease, E½ NE Section 62, Block 25, H&GN Ry. Survey, with four completed wells, for a reported consideration of $70,000. The lease is producing about 100 barrels of oil daily. Cambrian Oil Company is controlled by G. B. and O. R. Cree and B. L. Hoover, with headquarters at Pampa.

Initial yield of 1,000,000 feet of gas was developed by Tom F. Hunter and others' semi-wildcat in north central Collingsworth County on the H. B. Hill 160-acre lease, SEc Section 19, Block 17, H&GN Ry. Survey, after shot of 60 quarts of nitro in granite wash at 1910-40 feet. The well was drilled to 2300 feet, or 13 feet sub-sea. Top lime was logged at 1895 feet.

Operators were scheduled to start the past week on a projected 5000-foot wildcat test for Hartley County, westernmost gas producing section of the Texas Panhandle. O. V. Beck, Nocona, Texas, and others obtained leases on 19,700 acres out of the E. S. Collins ranch; 10,000 acres from Matador Land & Cattle Company; and approximately 2600 acres adjoining the two properties for making a test, which will try for oil production below the regular gas zones. Rotary rig has been erected on the Matador land in the most northerly NWc Section 20, Block 22, C. S. S. Survey.

ANDREW AGNEW has been given the place on the board of Shell Transport and Trading Company, Limited, formerly occupied by Samuel Samuels, M.P. deceased.

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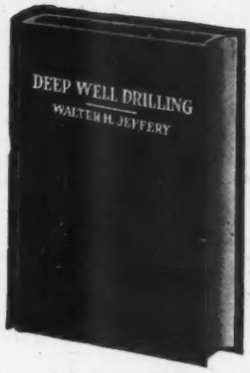

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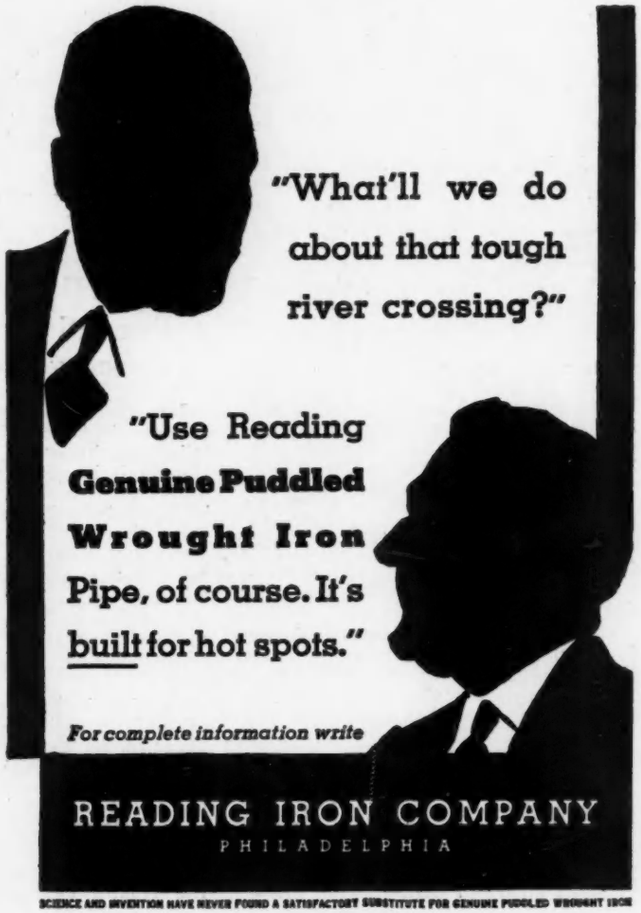
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New Placedo Sand

FIELD ALSO EXTENDED LAST WEEK; PORT LAVACA QUIET

WEEKLY STAFF REPORT

San Antonio.—A southeast extension to the proved area and a new producing horizon were established in the Placedo field, Victoria County, through the completion of Martex Oil Company and Cosmo Oil Company's Mitchell 1, E. Benevides Survey. The well was flowing seven barrels per hour and still cleaning late in the week. It encountered gas sand at 5293-5313 feet and oil sand at 5313-37 feet.

The above test is in the west corner of the lease, E. Benevides Survey, three quarters of a mile southeast of the producing area.

The completion of this well suggests that the Placedo and Keeran fields may be connected by a series of spotted sand lenses. The new discovery gives the Placedo field three producing levels, 4750 feet, 5300 feet and 6000 feet. The situation is similar at Keeran, just east of this new producing district.

Crown Central Petroleum Corporation's Schovajsa 1, Lot 15, is making drill stem test of a sand at 4750-72 feet. Eastern States Oil Company's Henderson & Pickering 1, Block 19, drilled to 6029 feet, plugged back, set casing at 4806 feet and perforated at 4740-50 feet, where it tested gas and mud. It is testing again. Same company's Schovajsa 1, Block 14, is still trying to complete after perforating at 4760 feet. E. Williams 1, E. Benevides Survey, has been started.

Gillespie and Superior Oil Company's Brandt 1, Block 11, drilled to 6255 feet, set whipstock at 3860 feet and is drilling ahead to the 4700-foot sand.

Magnolia Petroleum Company's Henderson & Pickering 1, Lot 18, drilled to 6394 feet, plugged back to 4750 feet, set seven-inch casing 4733 feet and swabbed salt water. It has pulled tubing and is being re-worked.

E. L. Smith Oil Company and Gulf Production Company's Lala 1, Lot 13, has spudded and set surface casing.

Barnsdall Oil Company's D. E. Gray 1, S. A. & M. G. Railway Survey, another wildcat in the vicinity of the field, is down 3000 feet.

Gulf Production Company's Keeran 7, in the Keeran field, east of the Placedo area, is testing at 5855 feet. It formerly was completed at 5400 feet, but reinstated and deepened.

Port Lavaca

Failing to establish production after plugging back from 6262 feet, The Texas Company is whipstocking W. A. Shofner 1, Port Lavaca field, Calhoun County, and will re-drill from 5550 feet. A short string of casing likely will be set and another effort made to complete in the 6200-foot horizon. The well is a direct offset to the discovery oil well.

Steinberger Petroleum Corporation's W. A. Shofner 2 is being completed at 6244 feet, casing set at 6216 feet. Shofner 3 is to be drilled immediately. Halliburton Oil Production Company's D. Burton 3 is drilling below 2500 feet, while Burton 4 is a derrick.

The Texas Company has made location for Hollman 1, 1450 feet north line and 1400 feet east line of 222.6-acre tract, Powell and Shupe Survey, and is to drill the test in an effort to extend production to the south.

Trouble at Seadrift

Continental Oil Company has encountered further difficulties with its heaving shale prospect near Seadrift in Calhoun County. Moody 2 is bottomed at 7134 feet with the special string of drill casing stuck about 40 feet off bottom. An attempt is being made to go into the hole with four-inch drill stem and establish circulation on bottom. A second string of drill casing is to be run into the hole to drill ahead from the present depth.

FRIO WILDCAT WELL

Pearsall test looks like a Georgetown producer

San Antonio.—Amerada Petroleum Company's W. H. Smith 1, wildcat 12 miles southwest of Pearsall in Frio County is in process of completion at 6085 feet, where it is showing for a large producer in the top of the Georgetown lime.

Seven-inch casing has been set to the total depth and stage cemented. The first cement job failed and casing was recemented with plugs scheduled to be drilled July 21 with completion to be effected within the next several days.

An electric formation test was made of the hole, indicating an excellent producer in the Georgetown, said to have been topped at 6077 feet. In fact, this well showed a tremendous amount of gas about this level when drilled.

At 5400-53 feet, this well showed 60 joints of oil and 37 joints of mud and fresh water on a drill stem test in the Austin chalk. The well at this level indicated that it would make a large producer.

While no official announcement has been made, it is expected that this well will be drilled ahead to the Edwards lime, about 100 feet below this level. If no production is obtained, the hole will be plugged back to the Georgetown showing for a test, then to the chalk level for completion.

Storage, separator and flow lines have been constructed in anticipation of the completion of a large producer. In addition, considerable trading has been done for royalty in the general area, some of the royalty under the Smith tract being sold since the setting of casing on the potential producer.

The new test is the eighth to be drilled on this 85,000-acre block under lease to the Amerada Petroleum Corporation. Four wells have been drilled to below 6000 feet, one going to below 10,000 feet. Four of the wells have been drilled to the 3900-foot Navarro sand, where the company recently established oil production. Actual drilling operations have been under way on this block for the past three years.

The new test is on the J. B. Mason Survey No. 322, and is nearly five miles southwest of the Pearsall field.

EXTEND TREND PLAY

In Duval and McMullen Counties; more drilling

San Antonio.—A series of new producers, including field and outpost wells, were added to the Government Wells trend of Duval and McMullen Counties during the week. Several of them provided interesting extensions, which should bring the immediate drilling of additional tests.

More than one half mile northwest of Government Wells sand production in the Seven Sisters field, Humble Oil & Refining Company's T. D. Smith 1 was completed for 34 barrels per hour through ½-inch choke, showing tubing pressure of 150 pounds and casing pressure of 300 pounds. It is in sand at 2483-91 feet, bottomed in sand. Same company's R. Serna, Jr., 1-A is flowing 17.7 barrels of oil per hour through ½-inch choke from sand at 2453-70 feet. It is showing tubing pressure of 25 pounds and casing pressure of 65 pounds. Santa Clara Oil Company is drilling Wood Welder 5, only other active operation in the field.

Loma Novio field continues to provide new production. The newest wells are showing large initial production.

Rodney DeLange's C. W. Hahl 1, flowed slightly more than 500 barrels of oil per day through ½-inch choke from sand 2651-71 feet, showing a pressure of 80 pounds on tubing and 290 pounds on casing. Highland Oil Company's Hubbard 1 is completed 2663-82 feet, but no gauge reported. Humble Oil & Refining Company's Ruiz Estate 6 is complete 2768 feet, but not yet gauged. Magnolia Petroleum Company's C. W. Hahl 3 flowed 17 barrels per hour through ⅛-inch choke from 2620-30 feet. Magnolia Petroleum Company's F. W. Herbst 2, an old well being deepened, has sand at 2800-4 feet and is setting casing to complete. Shell Petroleum Corporation's M. C. Hubbard 1

flowed 10 barrels per hour on a ¼-inch choke from 2776-91 feet. Stieren Oil Company's Wright et al 3 is completed for five barrels per hour from 2703-14 feet. The Texas Company's G. Ruiz 1-B, made 25,000,000 cubic feet of gas from 2728-57 feet. Texla Oil Company and Rosan's Hubbard 2 was completed for 39 barrels per hour on pump from 2787-98 feet, but sanded up; Hubbard 3 has sand at 2771-73 feet and casing set at 2765 feet.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
John Deering et al, Pullin 1, 330 ft swl and sel 80-ac lease, W. W. Grant sur (Rutledge)	*	3620
Dirks Bros., R. C. Harris 1, C. A. Dugat sur (Dirks)	750	3915
J. E. Routh 5, sec 7, Uranga gr (Dirks)	900	3885
Humble, J. C. Woods 1, 4891.5 ft w along fence fr se cor of Woods 4026.3-ac tr, thence n 15 degrees 466 ft in Wm. Burk sur	*	5128
Magnolia, G. A. Ray 1, W. B. Blanchard sur (W Tuleta)	400	3942
Wm. F. Rusk, Martin 1, blk 7, sw sec 9 (W Tuleta)	350	3980
BEXAR COUNTY—		
M. A. Frederich, Fee 1, F. Recardo sur	*	1115
DUVAL COUNTY—		
Rodney DeLange, C. W. Hahl 1, sec 78 (Loma Novio)	520	2671
Humble, R. Serna Jr, 1-A, sec 384 (Seven Sisters)	350	2470
T. D. Smith 1, sec 382 (Seven Sisters)	850	2491
Magnolia, C. W. Hahl 3, sec 67 (Loma Novio)	425	2630
Reilly 14, sec 45 (Gov't Wells)	60	2253
Shell, Hubbard 1, sec 77 (Loma Novio)	300	2791
Stieren Oil Co., Wright et al 3, sec 72 (Loma Novio)	120	2714
Texas Co., G. Ruiz 1-B, sec 41 (Loma Novio)	¶25	2557
Texla & Rosan Oil Corp., Hubbard 2, sec 84 (Loma Novio)	1000	2798
GUADALUPE COUNTY—		
Suttle et al, Baenzinger 1, 700 ft sl, 500 ft el 125-ac tr, A. O. Mansola sur, ow wo, did not deepen	†	2155
HIDALGO COUNTY—		
Ben G. Barnett et al, M. P. Ry. 3, por 41 (Samfordyce)	*	2756
LIVE OAK COUNTY—		
E. W. Turner, J. W. Walker 1, 330 ft swl, 1850 ft nwl blk 9, C. Simmons sub	†	325
McMULLEN COUNTY—		
Darby Pet. Corp., E. R. Hagist 1-C, sec 108 (Loma Alto)	*	2802
NUECES COUNTY—		
Southern Minerals Co., Rand Morgan 1, 330 ft wl, 660 ft nl lot 29, Elliott sur, 2½ mi nw Saxet field	*	7190
REFUGIO COUNTY—		
Quintana Pet. Corp., Tom O'Connor 13-A, Swisher sur No. 4 (Tomoconnor)	1500	5886
Tom O'Connor 14-A, Swisher sur No. 4 (Tomoconnor)	1500	5899
SAN PATRICIO COUNTY—		
Conroe Drlg. Co., R. H. Welder 1-D, 466 ft sl and wl of 500-ac D lease, Portillo sur	*	6007
Continental & Atkins, & O'Neil, J. F. Welder 3, 466 ft s and 150 ft w se cor Anthony tr, Juan Hart sur, ne Angelita field, sdtr 5397 and redr to 5553	*	5561
Plymouth Oil Co., E. H. Welder 4-C, sec 48 (Plymouth)	350	5639
E. H. Welder 5-C, sec 45 (Plymouth)	500	5639
STARR COUNTY—		
Hiriam M. Reed, Doyno & Chatfield 4, blk 3, sh 21, por 80 (Rio Grande City)	50	1396
WEBB COUNTY—		
Magnolia, Volpe Benavides 4, sec 660 (West Cole)	40	2338
ZAPATA COUNTY—		
Martinez & Daniels, A. M. Bruni 1, blk 44, San Ignacio sub, Borrego gr (Blasuribe)	¶30	1834

*Failures; †Junked; ¶Million cu. ft. gas.

PLYMOUTH EXTENSION

Test is being completed, expect good producer

San Antonio.—Magnolia Petroleum Company's Corpus Christi Bank and Trust Company 1, H. H. Hunter survey, 9000 feet south of production in the Plymouth field of San Patricio County, was in process of completion late in the week at 5595-5600 feet, showing for a good producer. The well was starting to clean itself, but no estimate was available on production.

Plymouth Oil Company has added several more producers. Welder 4-C, Section 48, is good for 10 barrels per hour through 3/16-inch choke at 5639 feet, while Welder 5-C, Section 45, is good for 25 barrels per hour on 3/16-inch choke at 5639 feet. Welder 6-C has casing set after reaching a total depth of 5638 feet. Welder 7-C is drilling below 5450 feet and Welder 8-C is down 3600 feet. Several more operations are to be started immediately.

Violet Oil Company's Welder 1, Section 47, just west of a line between Magnolia Petroleum Company's producer and the field, is coring below 5636 feet and has not picked up the sand. Benson & Jones' Welder 1, west of the field, is drilling around 2000 feet.

Heep Oil Corporation plugged back Welder 2-E after testing salt water at 5667 feet and has completed it as a producer. Welder 3-E is coring at 5648 feet and Welder 4-E is rigging up.

COAST COMPLETIONS

Houston.—There were 19 completions along the Texas Gulf Coast during the past week and of that amount 13 resulted in producing wells with an initial production of 3841 barrels per day. The remaining six completions were failures.

Courtesy Porter Regenold, Corpus Christi

Map shows location of Magnolia Petroleum Company's Corpus Christi Bank 1, which extended the Plymouth field, San Patricio County, 900 feet southwest.

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TWO WILDCATS SHOW

Will test shows in Lee and Caldwell Counties

San Antonio.—McNeil Petroleum Company is setting casing in G. B. Batey 1, Lee County wildcat, preparatory to testing a showing encountered in the Edwards lime. The lime was topped at 3315 feet, cored at intervals below 3330 feet to 3367 feet. The lime was hard and not very porous, but had considerable oil stain and a good odor. Saturation was shown in some of the cuttings of the formation as it was brought up on the ditch. No water was evidenced.

The will is 4200 feet from the southeast line and 3700 feet from the southwest line of the Nichols Survey. It is 14 miles northwest of Lexington and three miles east of Baukiss.

It is believed that possibly 75 feet of the upper portion of the Edwards lime was faulted out and regardless of the outcome of the test, a second well has been announced about 650 feet to the southeast.

O. W. Killam's W. D. Moore 1, 1½ miles south of the Lytton Springs field, Caldwell County, cored saturated Taylor marl at 1815-30 feet and is making a drill stem test. The cores were heavily saturated and at least a small producer is expected to result.

The well is located in the east corner of a 44-acre tract in the James Burleson Survey. It is on a small block of acreage, the original deal embracing only 800 acres.

TO BUILD REFINERY

That will provide outlet for Dinero district oil

Corpus Christi.—Market for crude from the Dinero district of Live Oak County is being provided through the construction of a 1000-barrel topping plant near the town of Mathis. The plant is for Pettus Oil & Refining Company.

Following the opening of this plant, about September 1, it is expected that a pipe line, size later to be determined, will be constructed from the Live Oak County producing area to this refinery, a distance of approximately 10 miles.

Pettus Oil & Refining Company has been formed by Morris Roberts, president, George A. Ray, Jr., and W. D. Walton, all of Pettus, and actively engaged in producing and refining business in this area. Roy Mechen, chemist, will be superintendent.

The new plant is on a site adjoining the Missouri-Pacific railroad and on the edge of Mathis. Crude and refined products will be handled by both truck and tank car.

The construction of a pipe line out of the Pettus area will provide the first outlet for production from the area other than by truck or tank car.

The Dinero District comprises three fields, namely McNeill, North Lucas and Lucas, the former two being discoveries.

McNeill field has six 44.5 gravity oil producers in Hockleyensis sand at 4400 feet, all of which are owned by the Lion Oil & Refining Company. Smith and Storey and Houston Oil Company jointly own two wells, the only producers in North Lucas field, producing 44.5 gravity oil from about the Conroe section of the Yegua formation just below 5200 feet. Lucas field, producing for the past several years, has a number of wells in the 5200-foot Yegua level producing very high gravity oil along with a large volume of gas.

DEFINE SAMFORDYCE

Southeast edge of field is further limited

San Antonio.—Samfordyce field, Hidalgo County, was further defined on the southeast through the completion of a salt water well in Ben G. Barnett et al's Missouri Pacific 3, Porcion 41. At 2748-52 feet, it swabbed dry, but being deepened to 2756 feet, it developed salt water and a little oil under a pressure of 800 pounds.

Cortez Oil Corporation's C. E. Smith 1-C, also in the southeast side of the field, drilled to 2944 feet, tested salt water and plugged back to 2700 feet. It will drill out a few feet and perforate casing.

Several other operations are reported active: Harrison, Davis & Bishop Guerra 3 is down 2050 feet. K. D. Harrison & D. D. Oil Company's George 3 is preparing to spud. Henshaw & Rotherts' C. E. Smith 1 is a derrick. King-Woods Oil Company's John Lawrence 4 is drilling below 2200 feet, and Guerra 6 is preparing to move in. W. F. Lacy's Seabury et al 1 is drilling below surface casing. Mundy & Son's Guerra 1 is rigging up. Earnest Powell's George 1 is preparing to spud. Several additional locations have been made, but have not yet become active.

BEE COUNTY ACTIVE

Good wells completed in West Tuleta-Dirks area

San Antonio.—Several more excellent high gravity producers were added to the West Tuleta-Dirks area of Bee County during the past week. Thick, well saturated sand bodies are being encountered in the Pettus horizon in these fields.

Dirks Brothers' R. C. Harris 5, Dirks field, made an estimated 30 barrels per hour initial flow. It had cap at 3870-72 feet, sand at 3872-3905 feet, shale 3905-7 feet, and sand 3907-15 feet. Same operators' J. E. Roth 5 is completed at 3885 feet flowing 35 barrels per hour.

Also in the Dirks field, Mills Bennett's C. W. Bassinger 1-B is completing at 3865 feet and Bassinger 4-A is completing at 3868 feet. Heyser, Heard and Walton's H. C. Young 3 and 5 are completing in the 3800-foot sand. The Texas Company's Young 2 completed at 3851 feet, but gauge not reported.

L. A. Douglas's Imogene Hall, about one half mile northeast of the Dirks field, is preparing to drill plugs at 3917 feet. It indicates a northeast extension to the field.

West Tuleta field's activity continues unabated with several completions during the past few days. Magnolia Petroleum Company's G. A. Ray 1 flowed at the rate of 15 barrels per hour through ¼-inch choke from sand at 3939-42 feet, showing tubing pressure of 100 pounds and casing

pressure of 550 pounds. In the small tract area of the same field, William F. Rusk's Martin 1, center Block 7, sw Section 9, flowed 305 barrels per hour through ½-inch choke from 3980 feet, showing tubing pressure of 75 pounds and casing pressure of 375 pounds. It had gas sand at 3933-60 feet, shale to 3962 feet, sandy shale to 3975 feet, oil sand to 3980 feet and set casing at 3962 feet. It calls for the drilling of several offsets in the immediate area.

Simms Oil Company is completing P. L. Campbell 2, in sand at 3920-24 feet, and has location for two more tests in that section of the field.

Anahuac Extended

FIELD APPARENTLY WILL BE A MAJOR PRODUCING AREA

WEEKLY STAFF REPORT

TAKE REFUGIO BLOCK

San Antonio.—Humble Oil & Refining Company and Quintana Petroleum Corporation have jointly taken a block of 2000 acres in Refugio County about one mile east of the producing zone of the Greta field under a rather elaborate development contract.

The deal, as reported, included the payment of $175,000.00 in cash and $366,150.00 payment out of one-fourth of the oil production. Within 120 days from the signing of the contract, a deep test well, possibly 6500 feet, is to be commenced. Should it fail to produce, four additional wells are contracted to be drilled or the lease forfeited. Should production be developed, they are to carry on a continuous drilling campaign until enough wells have been drilled to equal one well to each 25 acres. The lands included in the deal are the Fannie V. W. Heard and Claude Heard tracts.

The most recent completions in the Tomoconnor field are O'Connor 13-A, flowing 60 barrels per hour through ¼-inch choke and showing 500 pounds working pressure, and having a total depth of 5886 feet. O'Connor 14-A, total depth 5889 feet, flowed 58 barrels per hour through 3/8-inch choke, showing 1400 pounds tubing pressure.

Humble Oil & Refining Company and Quintana Petroleum Corporation are developing the Tomoconnor properties.

CONTROL WILD WELL

Houston.—Gulf Production Company's Moore 43, Orchard field, Fort Bend County, which has been burning for the past 12 days was finally brought under control during the past week when local fire fighters were able to pump mud into the hole and place on the cap.

The test blew out from 6650 feet, a new sand discovered in the field, and caught fire. The well was making an estimated 50,000,000 to 60,000,000 cubic feet of gas daily.

Lake Charles.—There were only five commercial producers completed along the Louisiana Gulf Coast during the past week, two of which were workovers. The initial production of the five producers was 1114 barrels per day. The remaining six of the 11 completions were failures.

Houston.—One of the largest major extensions to an oil field on the Gulf Coast is Glen H. McCarthy and R. A. Mason's R. M. White 1, which gave indications during the past week of extending the production limits of the Anahuac field, Chambers County, nearly three miles in a northward direction.

The Anahuac field now is more comparable to the Conroe field, Montgomery County, in size than any other deep seated salt dome on the Gulf Coast, with the exception of Hastings field in Brazoria County.

An encouraging factor in the R. M. White 1 is that the well is running higher than the discovery well on the oil and gas sands. However on the geological markers the well is running lower than the field.

128 Feet of Sand

During the past week seven-inch casing was set at 7003 feet, after drilling to 7054 feet in 128 feet of solid sand which showed oil and gas. The oil from the sands tested around 38 gravity. The oil and gas sand was topped at 6926 feet.

Glen H. McCarthy and R. A. Mason's White 1 is located three miles from the farthest south producer in the field, 14,000 feet from the discovery well and 11,500 feet from Humble Oil & Refining Company's Clark 2.

Upon completion of the well the operators plan to skid the derrick 466 feet west and start drilling R. M. White 2, and it is reported that 10 new locations will be announced soon. Plans are also for the operators to construct a camp and warehouse to the northwest of the discovery well.

The 10 new locations which will be announced will be located running east and west along the most southern line of the lease, being a north offset to Sun Oil Company's property. No doubt when R. M. White 1 is completed Gulf Production Company will offset the well to the southeast and Sun Oil Company will likewise offset to the south.

Those controlling acreage around the R. M. White 1 are: Sun Oil Company, which owns acreage surrounding the test; Gulf Production Company has a section of land offsetting the well to the southeast; Humble Oil & Refining Company has acreage to the southeast of Gulf Production Company's acreage; Sterling Oil & Refining Corporation has a large block of acreage to the north of the extension test; and Fred Luckle has a 9000-acre block in the northeastern direction of the well.

R. A. Mason leased the acreage to the north of Anahuac field and got eastern capital to help drill the well. The eastern capitalist engaged David B. McDaniel to come to Texas and he recommended the well. George Tyson, Redington Fiske, R. A. Mason and David B. McDaniel own the controlling interest in the well. It is understood that the above operators have formed a company in Texas and will operate on the Texas Gulf Coast.

Around R. M. White 1, the operators control 976 acres and plan to develop the property immediately. David B. McDaniels of Boston, Mass., is responsible for the location of the extension test. He is a geologist and has worked in the area for some time, working subsurface and paleontology on the different wells drilled within a radius of 12 miles from R. M. White 1 and due credit is given him for the extension test.

The extension test is located to the northwest of the town of Anahuac, and is 466 feet out of the southeast corner of R. M. White 976-acre tract, being approximately 3125 feet north of the south line and 466 feet west of the east line of J. McGahey Survey, Chambers County.

Excitement has been aroused around the small town of Anahuac with lease brokers and royalty buyers very active. The town has approximately 200 families and is on the east edge of Turtle Bay in Chambers County. New hotels and cafes are being constructed over night and it is planned that a bus line will be run through the small city. The town has no railroads.

The Anahuac field was discovered March 3, 1935, when Humble Oil & Refining Company's A. Middleton 1 made five barrels per hour with a large volume of gas through a three eighths-inch choke with 2300 pounds tubing pressure; casing pressure 2500 pounds from 7050 feet and from the Frio sands found from 6998 to 7084 feet. The well was killed at 7050 feet, then drilled to 7084 feet and came in for 11 barrels per hour of 37 gravity oil through a three eighths-inch choke with a gas-oil ratio of 8700 to one. The well showed no salt water. The elevation of the discovery well is 30 feet. The field was worked by reflection seismograph and torsion balance by Humble Oil & Refining Company in 1934. Sun Oil Company, Yount Lee Oil Company, Shell Petroleum Corporation and Amerada Petroleum Company did geophysical work in the area the latter part of 1934.

Upon comparison of the R. M.

White 1, and the discovery well for the field, the former well is running around 70 feet higher than the discovery well on the producing sands but on the geological markers it shows that the discovery well is running higher than R. M. White 1, which indicates a dip from the Anahuac field towards R. M. Mason well. Upon comparison of the White 1, and the Clark 1, which is the closest well, we find that the same situation with a much sharper dip in that direction. It is recognized that a fault exists between the two areas, which was shown by the geophysical pictures and the geological markers. The geophysical picture failed to show a high in the northward direction and instead showed a dip in that direction.

Humble Oil & Refining Company's Middleton 3 is the highest well in the field, and the operators had 240 feet of sand in the well. From 6891 to 6997 feet a gas sand was found. From 6997 to 7131 feet the operators encountered an oil sand. From 7131 to 7141 feet there was no recovery and it is not known how much sand was in the 10-foot core. A salt water sand was cored from 7141 to 7172 feet, which established a water level for the field. It is believed that a fault exists between the discovery well and Humble Oil & Refining Company's Middleton 3, which is 2800 feet northwest of the discovery well. The lowest well yet drilled in the field is Broussard 3, which encountered the geological markers some 100 feet lower than Broussard 1, which indicates a slight dip to the south. Also the Broussard 1 is running somewhat lower than the discovery well. Upon comparison with the wells to the west of the discovery well there is another slight dip.

Sand Thickness

The sand thickness in the field ranges from 50 to 240 feet, which includes both the gas sand and the oil sand. In R. A. Mason 1 there is 128 feet of solid sand which some claim to be 100 feet of gas and 28 feet of oil sand. The operators set seven-inch casing at 7003 feet.

It is too early to estimate the size of the field. At present the field is three miles long and a half mile wide. Several estimates have been made on the field by those being optimistic which state it will be from five miles wide to 11 miles long. They claim the field will go in the direction of the Hankamer field, which is 10 miles north of the White 1, and then turn in a northeastern direction. However from the surface a nice high can be noticed in that direction. While some are estimating the field to be larger than that of Conroe, others are stating that the Hastings field in Brazoria County will be large in size.

Defined Southwest

The Anahuac field is already defined on the southwestern side by Turnbull & Irwin who drilled Sudindrof 1 to 7636 feet in salt water sand. This well had over 253 feet of sand, but the sand failed to carry any oil. Top of the sand was found around 7448 feet and was abandoned at 7636 feet. At the time the well was drilling it was running over 200 feet higher than other wells drilled in that area. The well is located approximately three miles from the discovery well.

In the Anahuac field, Humble Oil & Refining Company is now constructing a camp which some say will be 25 houses and three warehouses. The company also is constructing a one-unit high-pressure pump station in the field to carry the oil direct through their six-inch line to the Barbers Hill line to Humble Oil & Refining Company's Baytown, Texas, refinery. The oil is now gathered from the field through a low pressure suction pump station and is run into a 5500-barrel storage tank in the center of the lease and are contemplating building several more soon. Humble Oil & Refining Company is also constructing a road through the field and are working 13 teams and one large tractor. At present the operators have a wooden road leading from the camp to all the drilling wells and the completed wells. For water supply in the field the operators have a canal running through the heart of the field. The fresh water is received from the Trinity River which runs in to the bay at Anahuac. Several geophysical crews are now working in the field and are also working to the northeast of the R. M. White 1. It was reported that one of the leading supply stores were looking for a site to build a warehouse to service the field.

The rules passed by the Texas Railroad Commission for spacing rules in the field are one well to every 20 acres with the well spaced 466 feet from the lease lines and 933 feet apart. The allowable is based on the acreage and potential with a maximum allowance of 25 acres to any one well. These new regulations became effective May 8, 1935.

The Anahuac field is located 22 miles south of Devers off the Houston-New Orleans highway, United States 90 and State 3 highway and is located approximately 65 miles southeast of Houston, Texas. The field is six miles east of the town of Anahuac.

HASTINGS EXTENDED

Well makes 225 barrels oil in 18 hours

Houston.—The Hastings field, Brazoria County, was extended 3000 feet west during the past week when Stanolind Oil & Gas Company completed its J. C. Hutcheson 1, for 225 barrels of pipe line oil in 18 hours from 6100 feet, through a three eighths-inch choke, with 890 pounds on the tubing and a casing pressure of 600 pounds. The test had over 300 feet of sand in the hole.

J. C. Hutcheson 1, is located 330 feet

Geological Markers and Sand Thickness on Important Anahuac Wells

COMPANY	Lease	Well No.	Discorbis	Heterostegina	Marginulina	Frio	Oil Sands	Total Sand
Humble	Middleton	1	5940	6260	6590	6998	6998–7084	182
Humble	Middleton	2	5965	6325	6630	7060	7062–7126	64
Humble	Middleton	3	5822	6190	6500	6995	6997–7131[1]	240
Humble	Broussard	1	5960	6320	6650	7018	7018–7099	81
Humble	Broussard	3	6100	6458	6823	7028	7030–7100	70
Humble	Clark	1	5963	6324	6660	7034	7034–7117	93
Humble	Clark	2	.....	6260	6600	7045	7045–7095[2]	50
Turnbull & Irwin	Sudindrof	1	6439	6810	7172	7606	.....	...
R. A. Mason	R. M. White	1	5900	6510	6740	6926	6926–7054	128

[1] Gas sn 6891–6997. Salt water sn 7141–7172. [2] Salt water 7448.

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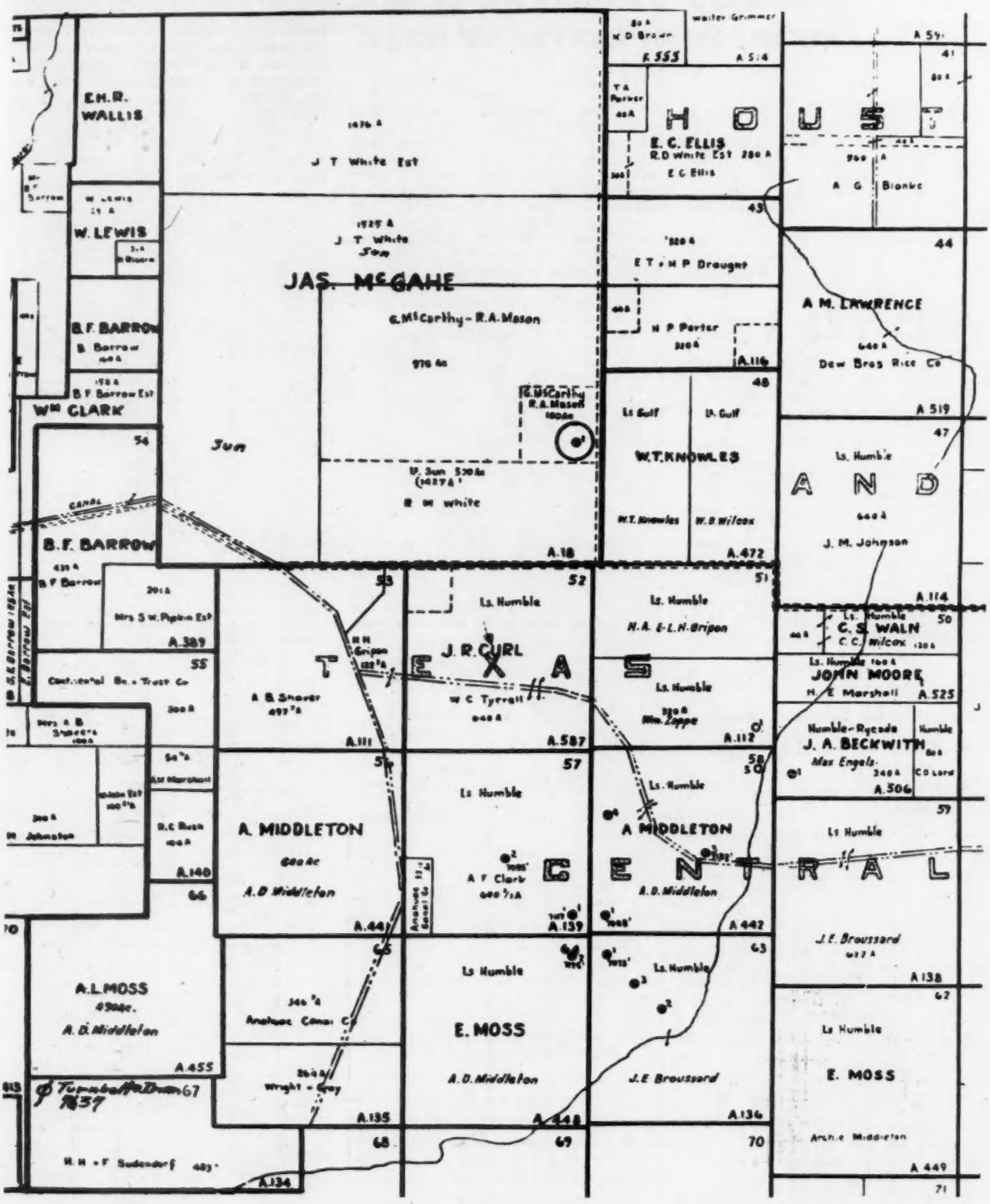
south and 330 feet east of the northwest corner of a 40-acre lease in H. & T. B. Survey, No. 36.

The same company's H. G. Williams 1, was completed for 236 barrels in 18 hours from 1600 feet. The oil flow was through a three-sixteenths-inch choke with a tubing pressure of 750 pounds; casing pressure 500 pounds.

M. Kidd 1, made on a potential test, 635 barrels per day from 6100 feet. The flow was through a quarter-inch choke.



Courtesy Gulf Coast Engineering Company

Map showing extent of development at Anahuac.

Hardin Wildcat

POSSIBLE PRODUCER IS DUE TO BE COMPLETED AT ONCE

Houston.—Jack Frazier's Lynott & Buffon 2, 1¼ miles east of Lynott & Buffon 1, three miles north of Hardin, J. Robeson Survey, Liberty County, was preparing to perforate seven-inch O.D. casing July 20, 1935, and complete. The casing will be perforated at 7666 feet. Should this wildcat prove a commercial producer it will add another new oil field to the Texas Gulf Coast. On July 11, the well showed eight thribbles of oil in 10 minutes through a quarter-inch choke.

The inside story of this discovery is very interesting from a geological and petroleum engineering standpoint.

On November 18, 1934, an electric core test was made in Lynott & Buffon 1, situated about 1¼ miles west of the present discovery well. Some cores were showing oil from 7395 to 7408 feet but the section 7456 to 7472 feet was entirely missing in coring. In the electrical test, both sections showed some light saturation, as can be seen in Figure 1 (enlarged scale). The electrical interpretation was that both sections were carrying water, with slight show of oil, and it was strongly recommended not to set casing on so poor an indication.

Casing however was set and perforated successively at both levels, both times giving salt water with slight indication of gas and oil.

Later, the present well, Lynott & Buffon 2, was drilled to 7850 feet and failed to indicate the two sands encountered in the first test. Furthermore, on the Eponides yeguaensis marker, Buffon 2 appeared to be at least 200 feet lower than Buffon 1 and the well was condemned already as another dry hole, on the strength of this observation.

On June 24, 1935, an electrical core survey was made and showed a sand from 7666 to 7682 feet with a good saturation at the top (Figure 2). The surveying company strongly recommended the testing of this sand through sidetracking and a drill stem test. In spite of much opposition, Frazier had enough confidence in the electrical results to decide to go ahead and invest his own money in the sidetrack.

The well was plugged back to 7550 feet and a whipstock set, but in redrilling the sidetrack came back in the old hole at 7600 feet. A new attempt to whipstock out was unsuccessful, and finally the cement was reamed down to 7676 feet. A full-hole drill stem test, with a side-wall packer was made from 7641 to 7675 feet, and in 10 minutes, gave eight thribbles of oil, two thribbles of mud and brackish water.

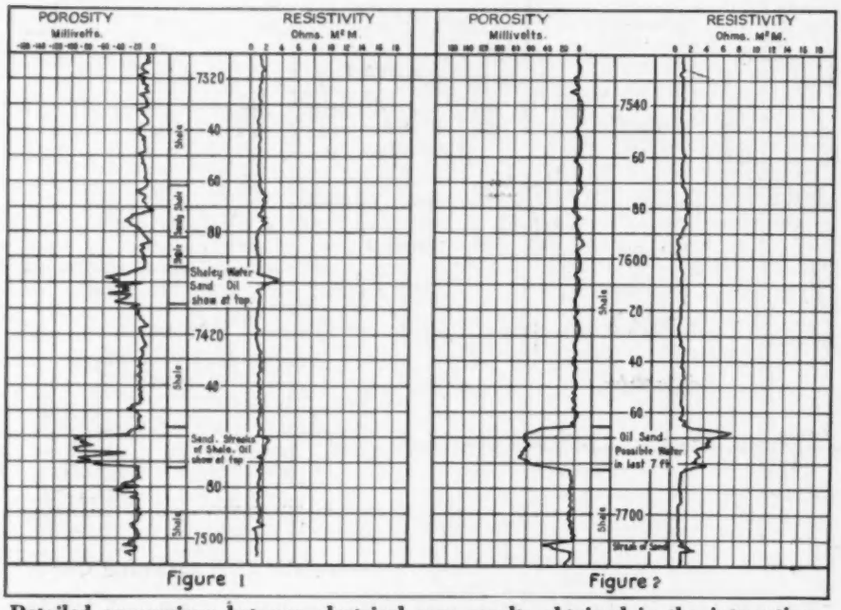
It is, of course, rather difficult, with only two wells 1¼ miles apart, to draw definite conclusions as to the structure indicated. Anyhow, the comparison of the two surveys obtained (Figure 3) shows that from 3000 to 5750 feet the two wells are running practically flat with a difference of five feet maximum.

Following are the markers:

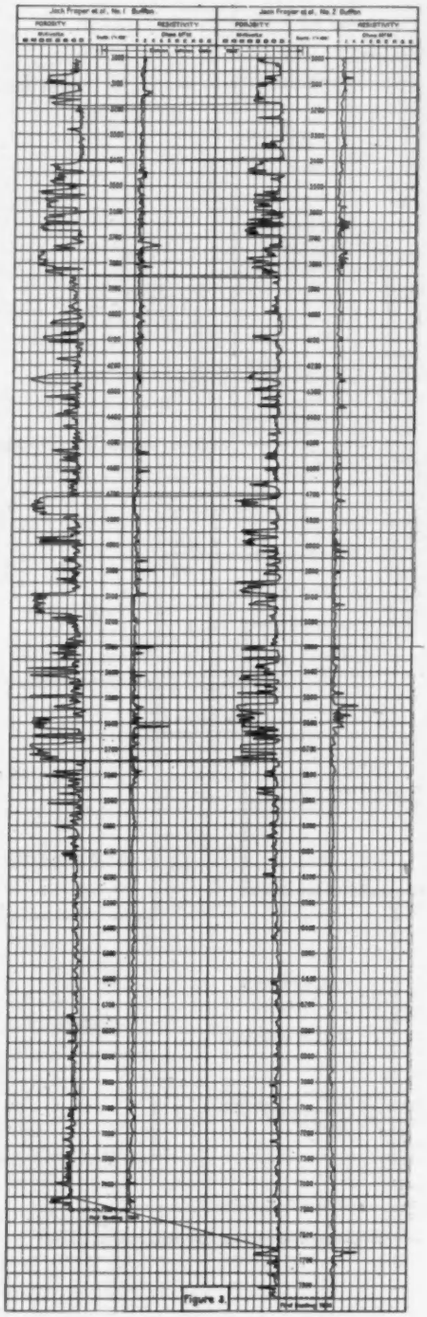
Lynott & Buffon 1	Lynott & Buffon 2
Feet	Feet
3173	3170
3395	3390
3845	3845
4235	4230
4710	4707
5745	5740

This correlating table shows that Buffon 2 is not down the structure as compared to Buffon 1. Therefore, if we admit that the sand 7456 to 7472 feet of well 1 is the same as the sand 7666 to 7682 feet of Buffon 2 we come to the conclusion that very likely some faulting exists with a throw of about 206 feet. This would explain also the fact that the lower well is a producer, while the first one is a dry hole, because they apparently are located on two different compartments.

As previously mentioned, this assumption remains to be proved further by additional drilling.



Detailed comparison between electrical core results obtained in the interesting sands of Buffon 1 and 2.
(Courtesy Schlumberger Well Survey Corporation)



Correlation between two wells in the Hardin area.

DICKINSON STRIKE

Test 2½ miles away is a possible producer

Houston.—An extension to the Dickinson field or a new oil field for the Texas Gulf Coast was indicated during the past week when Coast Petroleum Corporation's Maco Stewart, two and half miles south and west of the Dickinson field, Galveston County, showed several good oil sands on an electrical logging device in the Frio sands.

The bottom of the hole is 8554 feet. The electrical logging device showed a sand from 8335 to 8348 feet and from 8525 to 8535 feet. The electrical logging device showed 18 and 10½ ohms. A good showing of oil was found from 8513 to 8554 feet. At the close of the week the operators were running five-inch casing to 8553 feet, and will perforate.

It is not known if the well will be an extension or not to the Dickinson field. Some are of the opinion that the well is located on a separate dome and others think the two areas are separated by a large fault.

However, Maco Stewart 1 is running approximately 500 feet higher than the wells drilled in the Dickinson field. The test topped the Frio at 8190 feet. Marginulina 7590 and the Heterostegina at 7190 feet.

The well is located 3416 feet south and 200 feet east of the northwest corner of a 143-acre tract in Lot 3 of the Waterman Subdivision of W. K. Wilson Survey.

In the Dickinson field, Humble Oil & Refining Company's Maco Stewart A-2, 1600 feet south and little east of the discovery well, J. Sellers Survey, was waiting on cement to set at 9100 feet. If this well proves as a commercial producer it will be the second test to produce from the deep sand.

The Texas Company's Freeport Sulphur Company's Bryan Mound field, Brazoria County, was shut in at the close of the week waiting the construction of storage tanks.

During the past week the swab was run three times per hour and the well made approximately five barrels per hour. The oil showed 10 percent drilling mud, two percent water and two tenths of one percent sand. The well was stopped swabbing July 12, 1935, and the operators started moving in a lift. While the well is shut in the pressure is 750 pounds on the casing.

The same operator's discovery well in Wharton County, near the town of Pierce, I. & G. N. Survey, has been making pipe line oil since July 7, 1935. On a potential test the well made 394 barrels of pipe line oil with a tubing pressure of 700 pounds; casing 900 pounds. The bottom of the hole is 4710 feet.

The company has made location for Pierce Estate A-3. The well is located 1310 feet north and 58 degrees east from the discovery well in I. & G. N. Survey, No. 39. Elevaton is 102.7 feet.

In the Danbury field, Brazoria County, Turnbull & Irwin have made location for Blakely Winston 1, H. & T. B. Survey No. 14. The well is located 200 feet from the south line and 900 feet east of Shell Petroleum's Corporation's Blakely Winston 7.

TEXAS GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARBERS HILL—		
Texas Gulf Prod. Co., Wilburn 6..	347	4795
BOLING—		
Sun, H. R. Farmer 1	75	4089
CLEVELAND—		
Gulf, McDonald 2	*	6020
CONROE—		
Sun, Foster 20	782	5121
HASTINGS—		
Stanolind, Hutcheson 1	225	6100
M. Kidd 1	310	6100
Williams 1	236	6100
HIGH ISLAND—		
Yount-Lee, Cade 46	45	5761
HUMBLE—		
Sun, River 81 (wo)	176	1135
HULL—		
Sterling O&R Corp., Taylor 2	30	5228
LOUISE—		
Pure, Wharton 2	*	5165
RACCOON BEND—		
Humble	984	4103
SAN FELIPE—		
Buck Oil Co., Vaughn 2	*	3984
TOMBALL—		
Humble, Harris-Laird 2	216	5564
BRAZORIA COUNTY—		
Texas Co., Freeport Sulphur Co. 1..	50	4544
FT. BEND COUNTY—		
C. B. Bunte, S. J. Winston 1.....	*	lcn.
ORANGE COUNTY—		
Dick Schwab, Bunker & Rutan 1..	*	7265
SAN AUGUSTINE COUNTY—		
The Hunter Co., Long Bell 2	*	1585
WHARTON COUNTY—		
The Texas Co., Pierce Estate A-2..	365	4710

*Failures; †Junked; ‡Million cu. ft. gas.

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BOSCO DEFINED

Southeast edge well is abandoned as dry

Lake Charles.—The Bosco field of Acadia and St. Landry Parishes, was defined to the southeast during the past week when Superior Oil Producing Company abandoned E. Arceneaux 1, 1250 feet south of S. Martinez 1, which was a producer, at 8873 feet in the Marginulina formation after testing salt water.

On a drill stem test from 8670 to 8690 feet the well sowed 17 stands of salt water through quarter-inch chokes. The test was made in 11 minutes. The operators also abandoned the location for L. Prejean 1, which was located 2950 feet north and 650 feet east of the southwest corner of Section 35-8s-3e.

In Terrebonne Parish, it is reported that the Louisiana Land & Exploration Company has taken over 40,000 acres around Lost Lake and Lake Merchant for geophysical work.

Crowley Area

Humble Oil & Refining Company's Rice Milling Company 1, Section 27-10s-2e, South of Crowley, Acadia Parish, was abandoned during the past week after drilling to 9308 feet and sticking a drill stem.

The casing was perforated a number of times from the bottom to 5423 feet, but the well showed nothing but salt water with a small trace of oil.

After abandoning the wildcat the company plans to skid the derrick 100 feet and drill the second test in the area. Rice Milling Company 1, topped the Miocene at 8075 feet, Discorbis at 8203 feet and the Large Discorbis at 8542 feet.

Jefferson Davis Parish

In Jefferson Davis Parish, and to the southeast of China and west of Continental Oil Company's wildcat, a major oil company started a lease play during the past week. It paid from one to five dollars per acre. The company has two seismograph reflection crews in the area now. On the Bayou Serpent, centering around the old Superior Oil Producing Company's block, a major oil company has acquired several hundred acres with an option to purchase several hundred more after working geophysical instruments . A well is expected to be started on this block by the latter part of September. Several major companies have furnished bottom-hole money for the test.

Six miles northwest of Iota, Continental Oil Company's Ortigo 1, Section 28-7s-2w, was drilling at 8098 feet at the end of the week. It will go to the Vicksburg formation. The well has had slight showings of oil at 7740 feet and a show of oil and salt water at 7795 feet. The Marginulina was topped at 7544 feet.

In Vermilion Parish, Pure Oil Company is preparing to set casing in Alliance Trust 6, Gueydan field, at 9543 feet to make a production test. The operators will make one setting with the liner and screen attached in the one setting. The test has had several good showings of oil and it has been reported that the well has been trying to flow for some time. Should the well become a producer it will be the second deepest producing field in the Gulf Coast, with Bayou St. Denis field, Jefferson Parish, first.

Calcasieu Parish

The Texas Company's Nickerson Fee 4, in the Gillis field, Calcasieu Parish, was abandoned during the past week at 6935 feet after testing salt water.

On a drill stem test from 6750 to 6768 feet the well showed 19 thribbles of salt water in 13 minutes. The test is located 2063 feet north and 4473 feet west of the southeast corner of Section 12-9s-8w.

Fohs Oil Company's Airhart 1, quarter mile west of Wasey 1, which has proven the best producer in the English Bayou field, Section 14-9s-8w, was drilling below the producing sand that was found in Wasey 1, at the close of the week. On a drill stem test from 7020 to 7040 feet the well showed three thribbles of mud cut with distillate with a 525-pound pressure. The test was made through a quarter-inch choke on top and bottom and in seven minutes.

Union Sulphur Company's State 9, Section 12-9s-8w, which was completed some time ago as a gas well with a spray of oil from 6755 feet is being killed and will be carried deeper.

Shreveport, La. — Sixteen drilling permits were issued last week by the minerals division, Louisiana Conservation Commission of which eight were for North Louisiana divided among the following parishes: Bossier, one; Caddo, four; Catahoula, one; DeSoto, one; and Morehouse, one. The eight in south Louisiana were divided among the following parishes: Cameron, two; Iberia, four; Plaquemines, one; and St. Landry, one.

WELL BLOWS OUT

Sorrento Dome new sand discovery well is wild

Lake Charles. — Athens Oil Company's United Land Company 2, Section 15-10s-4e, 200 feet from United Land 1, Sorrento Dome, Ascension Parish, which extended the field and discovered a new sand, blew out July 14, 1935, and has been running wild the past week.

The hole was drilled to 4378 feet and was plugged back to 4330 feet. Seven-inch casing was set at 4292 feet and while trying to recement the well it blew out. The well is estimated making 4700 barrels per day and about half that amount is being recovered. The operators are trying to kill the test by placing a packer through the seven-inch casing.

Jefferson Parish

The Texas Company's Rigolet Cooperative Fur Trapping Company 1, 400 feet south of the discovery well, Bayou St. Denis field, Section 30-17s-24e, Jefferson Parish, was drilling in shale at 6150 feet after having its first showing of oil at 5123 feet.

The well had showing of oil from 5123 to 5131 feet in sand and a showing with water from 5130 to 5136 feet. As compared to the discovery well on top of the sands the Rigolet 1, is running about normal. The first 10 feet of saturated sand was found in the discovery well from 5127 to 5137 feet.

The same company's Bayou St. Denis 2, northwest of the discovery well, Section 19-17s-24e, was drilling in water sand at 6025 feet at the close of the week and failing to encounter any shows of oil.

In St. Bernard Parish, Emerald Petroleum Company's Shell Beach Properties 1, on the south edge of Bayou Louis, Shell Beach prospect, Section 31-13s-15e, was shut down at 7380 feet. At the bottom of the hole the drill stem stuck, and it was shot at 6440 feet. While pulling on the drill stem the derrick was pulled in. A reported showing of oil was encountered around 7248 feet.

REWORK HELPS

New Iberia discovery is aided by rework job

Lake Charles.—The discovery well for the new sand in the New Iberia field, Iberia Parish, was worked over during the past week after flowing oil for one year. The test is Y. D. Spell's Bernard 1. The well now goes under the name of Canal Oil Company's Bernard 1.

The well was spudded in on October 15, 1934 and was completed July 4, 1935, for 750 barrels per day from 3829 feet. On July 8, 1935, the operators started to work the well over and on July 13, the test was making around 400 barrels per day after the operators recemented five-inch casing. The pressure was 685 pounds. The oil flow was through a three eights-inch choke.

In Iberville Parish and on the southwest flank of the Choctaw Dome, an independent oil company of Texas paid $10,000 for a half interest in a block on the southwest flank of the field. The company is now moving in for a test, which will be located in the center of Section 53-9s-11e, a half mile from production. East of the town of White Castle, a Mississippi operator is to start a test by the first part of November, 1935. The 6000-foot test will be on a 3000-acre block.

J. W. Watterman has made location for St. Julian 1. The test is located 75 feet east of the west line of tract and 50 feet north from Lake in Section 4, 12s-5e. The test was spudded in July 8, 1935, and is now drilling at 1285 feet in gumbo.

LOUISIANA GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BOSCO—		
Superior, E. Arceneaux 1	*	8873
L. Prejean 1	*	lcn.
CAMERON MEADOWS—		
Burton-Sutton Oil Co, School Land 4	*	lcn.
Magnolia, Cameron Meadows 12	490	3355
EVANGELINE—		
L. F. Cole, Arneaudet 5, (wo)	25	1518
GILLIS—		
Texas Co, Nickerson Fee 4	*	6935
LOCKPORT—		
Union Sulphur, Moss 6, (wo)	*	6898
NEW IBERIA—		
Canal Oil Co, Bernard 1	400	3898
PORT BARRE—		
Emerson Trotter, Sibdle 2	5	3676
SULPHUR—		
Union Sulphur, Fee 800, (wo)	194	3048
ACADIA PARISH—		
Humble, Rice Milling Co 1, s of Crowley, sec 27-10s-2e	*	9308

*Failures; †Junked; ¶Million cu. ft. gas.

Interest Revived

IN NORTH LOUISIANA AND ARKANSAS BY DEEP STRIKE

WEEKLY STAFF REPORT

Shreveport, La.—Interest in deeper drilling in wildcat areas and proved fields in North Louisiana and Arkansas has been stimulated appreciably by the success of the first 6000-foot oil well in these two states, which showed for a good producer at 6048 feet in sandy oolitic lime of Glen Rose are recently in the Rodessa field, Caddo Parish, which heretofore has been a gas field producing in 20 wells from the 5500-5950 foot depth in oolitic lime.

Plans are going forward for a 10,000-foot test in the old Cotton Valley field, Webster Parish, where a 7002-foot hole was drilled by Magnolia Petroleum Company in McCook and Hibbler 1, Section 22-21n-10w, several years ago, and which had several oil showings just above bottom of the hole. Cotton Valley has gas and a few oil producers from the Glen Rose oolitic lime horizon at 4300-4500 feet.

H. I. Morgan of Shreveport has been awarded contract for the 10,000-foot test to be drilled in either Section 22 or 23-21n-10w, at an estimated cost of approximately $125,000. Major companies plan to pool costs but Ohio Oil Company which owns slightly over fifty percent of the proven shallow acreage in the field will bear its proportionate share or the majority of the expense. Other companies which are to cooperate financially in the test include Magnolia Petroleum Company, Arkansas-Louisiana Gas Company (Cities Service), Standard Oil Company of Louisiana, and Phillips Petroleum Company.

Several major companies have taken spreads in a 10,000-acre block of acreage assembled by C. D. Leach and associates, in La Fayette County, Arkansas, near Stamps, and centering in Section 20-16s-23w, for a 7000 to 8000-foot test, or even deeper. Location was made for the test in this section, Bodcaw Lumber Company 1. Danciger Oil and Refining Company, Magnolia Petroleum Company, Ohio Oil Company, Phillips Petroleum Company, Atlas Pipe Line Company and Frank Buttram of Oklahoma are among those interested in the block and the test.

Transportation Petroleum Company (Kamon and Neely) last week announced plans to set nine-inch casing in red beds at present total depth of 4300 feet in Red River Lumber Company 1, SW SW 26-19-25, and to continue this test to 6000 feet in search of possible production in the oolitic lime horizon of the Glen Rose.

As this test is 14 miles northeast of the Rodessa field, Caddo Parish, Louisiana, and in what is believed to be the "trend", this test will be watched with interest. It logged Nacatosh at 1804 feet and topped Ozan at 2740 feet. Later it topped red beds at 3450 feet and anhydrite in the red beds at 3600 feet; elevation is 250 feet.

Meanwhile, three-fourths of a mile northeast of present location, operators announced location for Cochrane Estate 2, located 330 feet south and west NEc 25-19-25, which will be a shallow test to explore the producing possibilities of the Nacatosh which they said showed considerable oil in the test now drilling, at about 1830 feet.

In Saline County, Arkansas, H. A. Clark of Henderson, Texas, and George D. Blaylock of Dallas, have assembled 10,500 acres centering in Section 18-15-2, for a test which proposes to go to 6000 feet or deeper if structure warrants. The block centers about five miles southwest of the town of Benton.

Gulf Refining Company's Werner Lumber Company 49, SW NW SW 5-16-16, Union County, Arkansas, which has set a depth record for North Louisiana and Arkansas, last week was drilling at 7566 feet in anhydrite, after logging base of Permian salt at approximately 7500 feet. This salt stratum was stopped at 6665 feet; elevation is 128.5 feet.

Three geophysical crews are working just over the Arkansas line from the Rodessa field. They are crews from Carter Oil Company, Tide Water Oil Company and Seaboard Oil Company.

Rodessa Oil Analysis

An analysis of the newly discovered Rodessa, North Louisiana, crude oil is reported disappointing from the gasoline refining standpoint. The gravity is 43.5 zero cold test. A laboratory analysis of a sample of the oil shows the following:

27.5 percent gasoline, of 62 gravity, with an octane number of 42.
17.0 percent kerosene, gravity 47.8
45.0 percent gas oil, gravity 37, pour test 75
9.0 percent fuel oil, gravity 16
1.5 percent loss. Sulphur content 0.1.

It is estimated that it will take an excess of 4 CC's of lead (which is more than allowed under an Ethyl contract, and more than used in Ethyl gasoline) to bring the gasoline as produced in this crude to 70 octane.

A detailed discussion of the analysis of the Rodessa crude was held at a meeting of the technical group of the Louisiana-Arkansas Refiners association at Shreveport July 12th.

The discovery oil well of the Rodessa field, United Gas Public Service Company's I. L. Young 1, SE SE 21-23n-16w, Caddo Parish, after being allowed to flow at the rate of 100 barrels per hour through half-inch choke on two and one-half inch liner, from total depth of 6048 feet in sandy oolitic lime of Glen Rose age, until it had flowed 925 barrels into tanks through separator, was killed by pumping the hole full of water and then pumping in mud. This was done to set a string of five-inch casing due to a leak in seven-inch casing which had been cemented at 5590 feet.

Efforts to pull liner were unsuccessful, however, and a cutting machine to cut out the liner was brought to location, but it was later decided not to cut the liner but to run the five-inch casing over the liner.

RODESSA LOCATIONS

Novelty of depth slows new Louisiana oil area

Shreveport, La.—An oil pipe line outlet for the Rodessa field, northwest Caddo Parish, producing from sandy oolitic lime of Glen Rose age at 6048 feet in United Gas Public Service Company's I. L. Young 1, SE SE 21-23n-16w, will be provided by Standard Pipe Line Company which last week began laying eight miles of eight-inch line to this well from the Baton Rouge trunk line.

There has been a mad scramble for leases and heavy trading in royalties over a 20-mile area extending northeast-southwest from the well but little close-in acreage was available. Top price paid for a lease was for two acres in the Rodessa townsite by D. C. Richardson of Shreveport who paid the Caddo School Board $8000 for the two acres with a contract to drill a 6000-foot test. This is in Section 23-23n-16w. Pelican Oil & Gasoline Company (A. C. Glassell and associates) paid $30,000 for 80 acres in NE SE 14-23n-16w.

It is understood that an agreement has been reached between United Gas Public Service Company and R. W. Norton who assembled the original 6000-acre block and drilled the discovery 5500-foot gasser in Rodessa in 1930, and who retained his oil rights on this and approximately 20,000 additional acres, whereby the company will develop his holdings in drilling for oil.

Due to the cost of drilling a 6000-foot test, which is a novelty in the Shreveport territory, at a cost of approximately $53,000, there have been but few locations. Furthermore, imported crews and drillers will be needed as those in this territory for the most part lack experience on 6000-foot depths.

Four Locations

Only four actual new locations were made in Rodessa last week as follows: United Gas Public Service Company's Thomas Unit 1, SW NE 23-23n-16w; Haynes Production Company's Lawson 1, NE SW 14-23n-16w, and Otwell 1, center SW SW 15-23n-16w, and Pelican Oil & Gasoline Company's T. Sexton 1, NE SE 14-23n-16w.

One mile southwest of the oil discovery well, United Gas Public Serv-

ice Company's D. F. Barr 1, Section 29-23n-16w, drilling at 5660 feet, will be the next well to reach the gas-oil producing horizon. Seven-inch casing was cemented at 5612 feet; elevation is 209.13 feet. Haynes Production Company's Tyson 1, NW SE 24-23n-16w, last week cemented 9⅝-inch casing at 2080 feet.

The southern limits of Rodessa production were apparently defined several months ago when Arkansas-Louisiana Gas Company's Windham 1, NE NW 4-22n-16w, was drilled to 6658 feet and was a dry hole.

Across the line in Cass County, Texas, there has been considerable leasing. H. L. Hunt, Incorporated, has assembled approximately 1000 acres centering in the Robert Trammell Survey, for an immediate test. This block begins only about one mile west of the discovery oil well. Jones-O'Brien, Incorporated, has approximately 1200 acres centering in the L. H. Walker and John Watson Surveys, some of the lease carrying an immediate drilling obligation.

Arkansas-Louisiana Gas Company which owns approximately 1000 acres in the Rodessa field proper, has large holdings in Cass County where it kept a geophysical crew busy for some time. Centering in the James Taylor Survey this company has over 20,000 acres.

SLIGO GAS FIELD

Shreveport, La.—The oolitic lime horizon of the Glen Rose (upper Trinity) added its fifth gas producer in the Sligo gas field, Bossier Parish, last week when Triangle Drilling Company's State of Louisiana A-1, located 1090 feet east and 2640 feet south NWc 23-17n-12w, was completed at 4437 feet, gauging 40,180,000 cubic feet of dry gas with 1860 pounds rock pressure.

This well is three fourths of a mile southwest of the nearest of the four other Glen Rose gas producers in this field.

The extension well was approximately 200 feet lower in the pay horizon than were the other gas producers.

ACID AT BELLEVUE

Shreveport, La.—Operators were watching the results last week of the first use of acid in a well in the Bellevue shallow field, Bossier Parish, which produces from the Nacatosh at 300 to 400 feet, the highest field structurally on the Sabine Uplift. Although production comes from Nacatosh sand it is believed there is enough lime and chalk in the formation to make use of acid feasible.

The well treated was The Premier Investment Company's Wyche 17, Section 14-19n-11w at total depth of 430 feet, which before treatment was good for six barrels daily on the beam. After 500 gallons of acid was used it was opened and while an accurate gauge had not been secured, the owners said they believed the experiment was successful in increasing the yield.

ASSEMBLE BLOCK

9000 acres are taken in Ashley County; plan test

ARKANSAS

WEEKLY STAFF REPORT

El Dorado, Ark.—Texas Seaboard Oil Company has assembled a 9000-acre block including a 200-acre tract in fee on which a 3500-foot test will be drilled, Fee 1, NW NE 28-17-4, Ashley County, southeast Arkansas. The location, it is claimed is on a geophysical high determined after considerable exploration which is said to show a closure of 200 feet. It is planned to drill the test with the use of an electrical logging device.

Rockwell Development Company has taken over Arkansas State Oil and Gas Company's Fee 1, Section 13-11n-3e, Poinsett County, Arkansas, which is on a block of approximately 15,000 acres. Rockwell Development Company is headed by the following men, all of Jonesboro, Arkansas: Gordon P. Crenshaw, president; Arthur L. Adams, vice-president; and R. A. Green, secretary. This test, located about two miles north of the town of Harrisburg, was spudded about two years ago and shut down slightly below 200 feet.

Near Junction City, Union County, Arkansas, Robert Wallingsford and John Cobb of El Dorado, have assembled an 8000-acre wildcat block for a 4500-foot test and location has been made for Laney 1, Section 32-19-16.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BOSSIER PARISH (Sligo)—		
Triangle Drilling Co., State of La. A-1, 23-17n-12w	¶40	4437
CADDO PARISH (Pine Island)—		
The Leonard Co., Green 2, sw nw 17-20n-15w	¶	825
MOREHOUSE PARISH (Monroe)—		
Southern Carbon Co., Tensas Delta 15, ne ne 33-21n-4e	¶7	2148
TENSAS PARISH—		
H. B. Schumacher, Tr., Curry 1, nw nw 29-11n-12e	*	4300

*Failures; †Junked; ¶Million cu. ft. gas.

TENNESSEE

Memphis, Tenn.—Geophysical work on approximately 200,000 acres in southwest Tennessee held under exploration contract by Binswanger and associates of Memphis has been completed and a test is expected to be started by August 15.

Monument Extended

EUNICE AND COOPER AREAS CONTINUE RAPID DRILLING

NEW MEXICO

WEEKLY STAFF REPORT

Hobbs.—Extension of the Monument field, Lea County's most important addition to the state's crude reserves this year, about 3¼ miles to the northeast materialized the past week when preliminary production test given The Texas Company's Saunders 1, C SE SW 18-19s-37e, proved the location for oil from dolomite lime at 3953 feet, or 260 feet sub-sea. It is about 54 feet lower on structure than the discovery well, which uncovered the field last February with a flow of 150 barrels of oil per hour after acid treatment.

The Texas Company's outpost well was unloaded late last week and bailed but the fluid level could not be lowered below the 2400-foot level. It lacked sufficient gas to flow, and will be acidized.

Formation tester used at 3862-3950 feet earlier in the week showed 1600 feet of oil and mud. The well had previously attracted attention through having developed an unusual volume of gas at various depths in the upper lime, which was cored and tested at intervals. A blowout at 3900 feet yielded a flow of 55,000,000 feet of dry gas production. The hole was then cased with seven-inch pipe at 3762 feet, using 1550 sacks of cement.

Two other wells were in process of completion in the Monument field the past week, both situated on the west side of Amerada Petroleum Corporation's discovery leasehold. Superior Oil Company's State 1, C NE NE 2-20s-36e, a west offset to the discovery well, encountered a tight lime condi-

tion, and was rated at 50 barrels hourly after being treated three times with acid, aggregating 12,000 gallons in lime at 3945 feet, or 349 feet sub-sea. Sun Oil Company's W. B. Maveety-Wier 1, C NE SE 35-19s-36e, the fifth well drilled in the field proper, encountered more favorable saturation in coring to 3935 feet, or 334 feet sub-sea, and was preparing to complete with prospects of a good well.

Potential rating of the Hobbs field was materially increased the past week through the completion of two wells by Samedan Oil Corporation, Ardmore, Oklahoma, on leases farmed out by majors on the east flank of the Hobbs field because of the locations being considered doubtful for production when assignments were made. This concern's J. H. Moon 2, SWc NW NE 28-18s-38e, earned a potential rating of 12,994 barrels oil and 14,300,000 feet of gas after treating lime section at 4180-4217 feet with 13,000 gallons of acid. The company's E. H. Byers 1, NW NE 3-19s-38e, was rated at 16,105 barrels of oil and 17,000,000 feet of gas from lime at 4200 feet, or 585 feet sub-sea, after multiple injections of acid into the formation.

Later reports on R. H. Henderson et al's P. J. Langley 1, C SE SE 8-25s-37e, situated 2 1/3 miles northeast of production in the North Jal field, indicates that only a small show of oil was developed from sandy-lime section at 3331-3338 feet, with the hole bottomed at 3343 feet.

Expansion of development work in the Eunice and Cooper fields continued at a high rate the past week when eight new locations were made. Each were spotted to take care of necessary offsets. Wildcat exploration work is on the decline, largely because the majors do not care to make such expenditures at this time, while the independents do not have many suitable blocks to promote tests through the sale of protection leases.

ROCKY MOUNTAIN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY (Cut Bank field)—		
The Dakota-Montana Oil Co., Winkler 3, nw ne 26-35n-6w	60	2850
Consolidated Gas Co.'s Tribal 5, Lot 5, 3-34n-6w	100	2990
TOOLE COUNTY (Kevin-Sunburst field)—		
Imperial Oil Co., Craig 1, cne ne 19-35n-1w	15	1600
Texas Co., Kenny 1, cne ne 15-25n-2w	224	1608
Nepstead et al, Vander Pas 19, se nw 33-35n-2w	*	1495
New Era Field Co., Lorenson 7, nw ne 27-35n-2w	*	1580
WYOMING		
HOT SPRINGS COUNTY—		
Argo Oil Co., Ellen 16, ne se 14-44n-98w	100	2683
WASHAKIE COUNTY—		
Chris Oil Synd., Government 1, ne sw sw 31-48n-90w	*	1855
WESTON COUNTY—		
Des Moines-Osage Synd., Thierry 1, nw nw sw 32-46n-63w	*	1500
NEW MEXICO		
LEA COUNTY (Cooper Field)—		
Humble, J. L. Coates 2, nwc n½ ne 10-24s-36e	2500	3560
LEA COUNTY (Hobbs Field)—		
Samedan Oil Corp., J. H. Moon-Conoco 2, swc nw ne 28-18s 38e	12,994	4217
E. H. Byers-Conoco 1, nw ne 3-19s-38e	16,105	4200

*Failures; †Junked; ¶Million cu. ft. gas.

Extend Kern Field

MOUNTAIN VIEW EXTENSION PRODUCER IS A SURPRISE

WEEKLY STAFF REPORT

Los Angeles.—The week's outstanding developments in the Mountain View field, Kern County, were the completion of two good producers in the field proper, abandonment of one extension test to the southeast of the field, and the successful completion of an extension well to the northeast.

A. T. Jergins Trust completed Wright-Bloemer 3 from a depth of 5965 feet for an initial potential production of 6100 barrels per day, 32.8 gravity, cutting 0.2 percent. An 8⅝-inch water string is cemented at 5465 feet and 517 feet of 6⅝-inch liner, including 504 feet of perforations, is landed on bottom.

Shell Oil Company completed Porter Two 1 on July 9 from a depth of 5880 feet for an initial production of 3240 barrels in 22 hours, 30.1 gravity, 0.6 percent cut, flowing through two ½-inch beans, wth pressures of 90 pounds on the tubing and 800 pounds on the casing. No potential test was made, the well having been shut in soon after completion. Water is shut off in this well with 8⅝-inch casing cemented at 5625 feet and 5¾-inch liner is landed on bottom and perforated up to the shoe of the 8⅝-inch water string.

The successful completion of Vesta Petroleum Company's Merritt 8, Section 19-30-29, northeasterly extension test of the Mountain View field, came as a surprise to most of the operators in this district. This well is located almost three-fourths of a mile from the nearest production and the concensus of opinion seems to be that the fault which limits production in this direction would be penetrated before encountering the oil sand. While the fault was penetrated too far down to obtain production from the Santa Margarita formation, still by plugging off the wet zone below the fault, and by setting pipe below certain wet sands in the upper portion of the Chanac formation, operators were able to obtain an initial production of 750 barrels per day, 23.1 gravity, cutting 1.0 percent, flowing through one 20/64-inch bean with pressures of 50 pounds on the tubing and 550 pounds on the casing. Total depth is 5140 feet, plugged back above the fault to 5065 feet, and water is shut off with seven-inch casing at 4915 feet.

Ohio Oil Company is abandoning Derby 2, southeasterly outpost well in Section 33-30-29. This well was carried down to 5866 feet and, with the exception of about 15 feet of oil sand just below 5760 feet, no worthwhile sands were present. However, on a formation tester run this sand showed no "kick," hence the decision to abandon.

Continental Oil Company has finished rigging up high-pressure equipment on its Gatchell 28-7, wildcat test in Section 7-25-20, and now is cleaning out at 6825 feet, carrying 1000 pounds pressure. Hole will be cleaned out to bottom, 6903 feet, and deepened. This well, located on the South Dome of the Kettleman Hills, Kern County, recently blew out while pulling a core from bottom and flowed 36,000 barrels per day rate of salt water for a short time before sanding up.

To Drill at Greenfield

United Exploration Company is preparing to drill another test of the Greenfield area, located about five miles southwest of Bakersfield, Kern County. The well will be known as Ricomini 1, and is located 150 feet south and 160 feet east from the northwest corner of the southeast quarter of the northwest quarter of Section 23-30-27. This new test is located about four miles northwest from where Big McKittrick Oil Company recently drilled its Sea Cliff-Houghton 1 to a depth of 6767 feet and abandoned without having penetrated any promising formations.

LARGE GAS WELL

For Semitropic field completed last week

Los Angeles.—One of the largest gas wells yet completed in the Semitropic gas field, located about 30 miles northwest of Bakersfield, Kern County, was brought in on July 8 when Fullerton Oil Company's No. 32, Section 25-27-23, was completed for 34,000,000 cubic feet. Depth of this well is 2441 feet, and 8⅝-inch casing is cemented at 2325 feet.

Notwithstanding the fact that there is a very limited market for this gas at present, operators are rushing ahead with their drilling programs. During the past week three more location notices were filed, all of which will be drilled immediately.

Fullerton Oil Company staked location for its No. 37-25 near the center of the southwest quarter of Section 25-27-23; Milham Exploration Company has already spudded its No. 63-15, in the northeast quarter of Section 15-26-23, and Superior Oil Company is rigging rotary equipment on its K.C.L. 2, located in the center of the northwest quarter of Section 34-27-24.

Along with the activity in the other

gas fields in Kern County, Milham Exploration Company has filed location for a well to be drilled at once on its holdings in the Buttonwillow gas field, located about 25 miles due north from the Midway Sunset field. There are approximately 25 completed and shut-in gas wells in this field, all but three or four of them being owned by Milham. However, these wells, except for bleeding off water occasionally to keep it from killing the gas flow, have been shut in since completion and this is the first drilling activity for the Buttonwillow Field since the spring of 1933.

The new project will be known as No. 12-6 and will be drilled 660 feet east and 980 feet south from the northwest corner of Section 6-28-23.

Define Kernell Area

Standard Oil Company's abandonment of Widgeon 2, Section 12-25-23, marks the first step in determining the productive limits of the Kernell gas area, located about 15 miles northeast of the Lost Hills Field, at the junction of the Kern-Kings-Tulare County lines. This well, the second drilled on the Kernell structure, was carried down to 4233 feet and successive tests made with formation tester showed a recovery of only muddy salt water.

Standard's first well on the Widgeon property was recently completed in the adjoining section to the north for an initial production of 6,000,000 cubic feet of gas per day from a depth of 3256 feet.

ANOTHER TRACY TEST

Amerada starts a second test near town of Tracy

Los Angeles.—Amerada Petroleum Corporation's action in starting a second test well at this time on its leases near the town of Tracy, San Joaquin County, is causing considerable speculation as to the merit of formations penetrated in its first well, F.D.L. 1, Section 15-2-5.

F.D.L. 2 will be drilled in the same section as Amerada's initial test, and about 2350 feet to the northwest. Rig is now being built.

F.D.L. 1 is bottomed at 5875 feet and 13⅜-inch casing is now standing recemented at 5680 feet. On first test of water shut-off of this 13⅜-inch casing, it was wet and the well made a short flow of mud, water, and a little oil. However, most geologists and operators expected nothing but gas from this test and the presence of even this slight showing of oil is encouraging.

NEW NEWHALL TESTS

To be drilled in Shiells and Wiley Canyon fields

Los Angeles.—Bankline Oil Company plans to begin work in the near future on a test on the southeasterly edge of the old Shiells Canyon field, located about in the center of the numerous small fields of the Ventura-Newhall district, Ventura County.

Lease name will be Calumet 1 and location is near the southwest corner of Section 3-3n-19w, and is considerably less than one mile from where The Texas Company is preparing to test its Shiells 128, from a plugged depth of 5265 feet, after carrying it to a total depth of 7423 feet.

Location is being graded by Saratoga Oil Company for No. 7 well in the old, shallow Wiley Canyon field. This field, located about 35 miles northwest of Los Angeles, in the Newhall district, is one of the small productive areas of the Santa Clara Valley, many of which have been producing since 1875, has witnessed no drilling for many years.

Location for the new project will be 468 feet south and 360 feet west from the northeast corner of Section 17-3n-16w, and operators expect to carry the hole well down past the zones from which production has been obtained heretofore.

DRILLING IS UP

California is showing a gradual increase in work

Los Angeles.—Drilling activity in California is showing a gradual but conservative increase over the previous three years, but strange to say little of the increased activity is in wildcat territory.

During the week ending July 6, total of 16 drilling permits were listed, and 11 of these were for proven Southern California light oil fields. Five were for Long Beach and Santa Fe Springs drew three. Two new ones started at Playa del Rey, recent extension of the old Venice field.

Many of the proved fields of the state have a number of separate sands and new wells are now being drilled to the sands heretofore not completely developed. In some instances two and even three wells are being drilled on one location, different holes tapping different oil sands. As many as three wells have been drilled on one location only a few feet apart at Dominguez.

To July 6, this year, in California, total of 522 new wells have been started, compared to 289 at same date in 1934. As of July 9, 1933, new permits numbered 264, compared to 170 for the same date in 1932.

DEFINE DEL REY

East edge well fails to encounter production

Los Angeles.—One of the most important developments in the Del Rey Hills portion of the Venice Field during the past week was the failure of Allied Petroleum Company's No. 1 well to obtain commercial production.

This is an outpost well to the east of the productive area of the extension proper, and about one fourth of a mile from the closest producer. Apparently, a definite limit to the field in this direction has now been established.

Total depth of Allied's well is 6686 feet and top of the conglomerate zone was penetrated at 6625 feet. A thin body of oil sand was present just below 6603 feet but formation tester run failed to show anything worthy of a production test, so operations have now been suspended.

Eyer Petroleum Corporation has derrick erected and is preparing to spud its first well on a small block of leases about one half mile east of the Torrance Field, Los Angeles County.

The test will be drilled near the center of Section 20-4s-13w, in an area where numerous tests have previously been drilled. Most of these wells have penetrated stringers of oil sand but none of them have been successful in obtaining commercial production.

28-YEAR OLD PUMPS

Installed in 1907 still are giving service

IT appears that pumps in oil wells frequently give extremely long service, particularly in shallow wells. In THE OIL WEEKLY of April 1, 1935, an article entitled "Well No. 13 Is Lucky" an unusual pumping record was discussed. Since that time we have heard of other interesting pumping service performances, two of which are cited below.

Sometime during the year 1910 an operator in the Lompoc area of California installed at 2½-inch by five-foot solid cast iron barrel, which was merely drilled and reamed. From that time until 1922 this pump ran continuously. From 1922 to 1927, its service period was intermittent, and from 1927 to 1931 it ran continuously, with another period of intermittent service from 1931 to March, 1935, when it was pulled for the first time. Although the service was not continual over its entire life, the pump stayed in the well 25 years before being removed.

In 1907, an independent operator in the Casmalia field, California, installed a 2½-inch by five-foot and a three-inch by five-foot barrel, both of which are still in the wells in which they were isntalled.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
KETTLEMAN HILLS—		
Standard, No. 54-19J	7050	8430
EDISON—		
C. E. Appling, Edison-Seale 4-1	35	3581
Shell, Nichols 4	175	1668
KERN FRONT—		
C. C. M. Oil Co., No. 42	365	2175
Geo. F. Getty, Grady 2	150	2131
MOUNTAIN VIEW—		
A. T. Jergins Tr., Wright-Bloemer 3	6100	5965
Shell, Porter Two 1	3525	5880
Vesta Pet. Co., Merritt 8	750	5140
SEMITROPIC—		
Fullerton Oil Co., No. 32	¶34	2441
Standard, Hornung 1	¶16	2426
KERN RIVER—		
Deep Zone Oil Co., U.S.P.P. 1	*	3210
LONG BEACH—		
Affiliated Oil Prod., No. 1	475	4140
Elmore Oil Co., No. 2	125	4775
Medal Oil Co., No. 3	50	4880
INGLEWOOD—		
Standard, Vickers 1-30	125	3943
DOMINGUEZ—		
Shell, Reyes 66	200	4451
Reyes 78	200	5867
SANTA FE SPRINGS—		
General, Santa Fe 44	425	3740
VENICE—		
Williams & Harper, No. 1	1200	6521
KERN COUNTY—		
Standard, Widgeon 2	*	4320

*Failures; †Junked; ¶Million cu. ft. gas.

4188 SHUT IN WELLS

In California fields are capable of producing

Los Angeles.—Of the total of 16,394 oil wells in California capable of producing, only 12,206 are on actual production, according to an analysis just completed by J. R. Pemberton, oil umpire for the Central Committee of California Producers, covering the month of May. The report shows that 4188 oil wells capable of producing are shut in and these wells have an estimated total per day potential of 218,-143 barrels.

The May analysis further shows there are a total of 485 wells in the state flowing naturally, while 209 are on the gas lift and 11,512 are on the pump. The per day potential per well follows: flowing, 1738 barrels; gas lift, 428 barrels, and pumping wells, 52 barrels. These figures only include wells actually on production.

During June, the total estimated potential of the state, including all wells, was reduced from 1,753,122 barrels, the figure used in May, to approximately 1,500,000 barrels.

BIG CRYSTAL WELL

Is completed northwest of field's discovery test

WEEKLY STAFF REPORT

Mt. Pleasant.—First production to equal or exceed that of the discovery well was encountered by Pure Oil Company July 14 on Mangus A-1, 10n-5w-2, Montcalm County, which initialed 208 barrels on the first hour open flow test from lime at 3182 feet with first show of gas and oil at 3180 feet. Producing against 250 to 300 pounds back pressure the test flowed 2900 barrels the first 24 hours.

The Pure-Mangus well, on a 15-acre lease, is located a half mile west and a quarter mile north of the Crystal discovery well. It also marked the first completion for Pure Oil Company in the new field, opened on March 28.

The J. W. Leonard, Jr.-Durbin 1, 10n-5w-11, discovery well in the Crystal pool was officially rated as a 3500-barrel well after flowing open 11 hours before it was brought under control. Since March 29 the discovery well has produced approximately 300,000 barrels of oil and is at present averaging better than 1200 barrels daily.

On the strength of production opened in lime at about 3200 feet more than a mile northwest of the discovery, new work is centering on the Crystal-Ferris township lime with 12 locations made since July 1. New work has virtually dead-headed south, southeast, southwest and due east as the result of failures chalked the past three months.

The western edge is believed more or less defined with lighter production a mile from the discovery.

Acid treatment on three tests in the Crystal area brought indifferent results. McClanahan Oil Company's Barger 1, 10n-5w-10, which initialed 75 barrels natural, flowed 500 barrels in three hours and 15 minutes when opened after acid but started to cut water and the following day made but three percent oil with the rest brine. Operators are running rods for a pump test.

Eastern Gulf's Barger 1, direct north offset to the discovery Durbin well, is swabbing 15 to 30 barrels of oil against 100 or more barrels of water after acid.

However, Gordon Oil Company's Frost 1, 10n-5w-3, which was plugged back from water sands to a light oil show is producing about 75 to 100 barrels after acid. Acid apparently works well in the district if proper precautions are taken in plugging off and producing against high back pressure.

MECOSTA EXTENSIONS

Gas area enlarged in two directions by new wells

Mt. Pleasant.—Nearly a mile northwest and a half mile southeast extensions of Mecosta County gas fields were shown the past week.

Gordon Oil Company's Taylor 1, 13n-8w-25, initiated for 6½ million feet of gas at 1314 feet in "stray sand" above the Marshall. It is located a half mile southeast of the gas production in the Hinton gas field.

Taggart Brothers' State 12, 15n-9w-32, initialed for one million feet in "stray sand" indicating a mile northwest extension of the Austin gas field.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
McClanahan Oil Co.'s Densmore 2, 13n-1w, ne sw nw	650	3415
Pure Oil Co.'s Hills 7, 13n-1w, se sw ne-18	30	3419
OGEMAW COUNTY—		
Ide Oil Co.'s Donovan 2, 22n-2e, se se nw-19	40	3750
MONTCALM COUNTY—		
Daily Crude Oil Co.'s Tow A-1, 10n-5w, se se se-3	2940	3184
Pure Oil Co.'s Mangus A-1, 10n-5w, nw sw sw-2	4300	3182
Gordon Oil Co.'s Frost 1, 10n-5w, se se sw-3	90	3199
St. Louis Pipe & Supply's Clark 1, 10n-5w, se sw sw-9	*	350
GRATIOT COUNTY—		
Crystal Oil & Gas Co.'s Shaver 1, 10n-4w, nw nw ne-4	*	3238
Strange and Fortney's Bovee 1, 10n-4w, nw ne sw-7	*	3250
Rex Oil & Gas Co.'s Biddle 1, 10n-4w, nw sw sw-20	*	3245
MECOSTA COUNTY—		
Hall Be Oyle Co.'s Taggart 3, 14n-9w, se se-3	¶6½	1330
Gordon Oil Co.'s Taylor 1, 13n-8w, se nw-25	¶6¼	1314
Taggart Bros.' State 12, 15n-9w, sw ne-32	¶1	1360
OSCEOLA COUNTY—		
Smith Petroleum Co.'s Moser 1, 17n-10w, ne se-20	*	3700
ST. CLAIR COUNTY—		
P. D. Bornman's Boldt 1, 8n-16e, sec 28	*	1315
NEWAYGO COUNTY—		
West Ashlund Dev.'s McKinnley 1, 11n-13w, nw sw nw-8	*	2465

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN STATES

WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
WEST VIRGINIA		
MARION COUNTY—		
Philadelphia Oil Co., Wood 1	7	....
MINGO COUNTY—		
Brown & Floyd, Spaulding 5	1	1260
PLEASANTS COUNTY—		
J. R. Ruckman & Co., Westbrook 1	1	551
ROANE COUNTY—		
John C. Cottle & Co., Davis 1	4	....
Spencer Nat. Gas Co., Young 1	¶	2191
R. C. Carpenter & Co., Burdette 1	1	1734
CABELL COUNTY—		
R. H. Adkins & Co., Fraley 3	¶	1337
Bledso 1	¶	3998
WIRT COUNTY—		
Peter Silman, Silman 2	*	....
DODDRIDGE COUNTY—		
J. R. Hiley, Shimm 1	*	2138
SOUTHEASTERN OHIO		
MONROE COUNTY—		
Penn Ohio Oil Co., Reisbeck 7	*	2080
Hines Bros., Hines 6	5	701
Hill O&G Co., McCaslin 11	¶	1630
MORGAN COUNTY—		
Choquill & Co., Greathouse 4	¶	1617
WASHINGTON COUNTY—		
Decker & Cisler, Decker 8	¶	1585
Chesmar O&G Co., Greenwalt 2	2	1192
D. T. Orndorf, Roe 6	10	1369
Turner & Co., Leasure 26	5	600
Anderson & Co., Vickers 3	*	....
CENTRAL OHIO		
GUERNSEY COUNTY—		
H. F. Muhlback & Co., Stewart 1	¶	1539
E. C. Quillan, Quillan 5	23	3458
M. J. Purdy, Bates 1	¶	1436
Barnesville Dev. Co., Jackson 1	*	1385
Jewell & Co., Saltzgaver 1	*	1706
MEIGS COUNTY—		
Turney & Co., Powell 1	¶	1926
Roy Holmes & Co., Bradford 1	¶	1965
O. D. Jones, Smith 1	¶	1978
KNOX COUNTY—		
Sterl Brown, Vanwinkle 1	5	822
LICKING COUNTY—		
Wehrle Gas Co., Darnew 3	*	1480
A. Stricker, Stricker 11	3	....
STARK COUNTY—		
E. Ohio Gas Co., Mayer 1	¶	4533
TUSCARAWAS COUNTY—		
Columbia Carbon Co., Zodro 1	¶	4927
RICHLAND COUNTY—		
Keeneth McConkie, Reed 1	*	573
ATHENS COUNTY—		
Ohio F. G. Co., Keirns 1	¶	1623
Black Diamond 7	¶	971
A. D. Townsend, Bane 2	¶	626
MEDINA COUNTY—		
R. G. Steingass, Obermiller 1	¶	2797
Preston Oil Co., Grigsby 17	*	428
Edson & Son, Wideman 28	*	517
D. A. Lake, Severcool 17	*	428
Severcool 18	15	517
Severcool 19	*	265
Severcool 20	25	477
Edson & Son, Miller 49	20	470
Miller 50	18	492
L. F. McGrath, Spitser 2	*	....
Spitser 3	*	....
Spitser 4	*	434
LIMA		
SENECA COUNTY—		
McKinney & Sons, Edwards 2	¶	394
WYANDOT COUNTY—		
R. C. Jones, Walters 1	*	1890
HARDIN COUNTY—		
Bert Sheldon, Bush 1	¶	1334
KENTUCKY		
OHIO COUNTY—		
Stewart & Gealy, Roberts 10	*	....
J. E. Hare & Co., Mercer 1	*	....
Inland O&G Co., Craig 2	10	....
Cumberland Pet. Co., Richards 11	80	....
Petroleum Co., Bellamy Hrs. 6	80	....
Snowden-McSweeney, Fuqua 17	15	....
Ohio Oil Co., Pfister 9	20	....

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

ALABAMA

BALDWIN COUNTY—Mrs. Mamie McCurry et al's Southern Kraft Co. 1, nw ne sw 28-2s-4e, dr 2062 ft, sandy shale.

COVINGTON COUNTY — Geometer Prod. Corp.'s A. B. Culbreth 1, sw sw ne 8-2n-14e, sd 6302 ft.

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est. 1, se nw sw 9-3n-29e, dr 2805 ft.

LAMAR COUNTY—DeSoto O&G Co.'s Gardner 1, nw nw 22-15s-16w, dr 4475 ft, lime & chert.

PIKE COUNTY—Ala. Drlg. Co.'s Faulk 1, nw nw 31-11n-21e, lcn abn.

ARKANSAS

ARKANSAS COUNTY—Grand Prairie Realty Co.'s Fischer 2, ne nw nw 6-6s-4w, sd for surf csg 120 ft.

ASHLEY COUNTY—Glen E. McFadin et al's Bovine Farms 1, ne ne 1-18-8w, sd 2798 ft. Texas Seaboard Oil Co.'s Fee 1, nw ne 28-17-4, rur.

CALHOUN COUNTY—The Hunter Co.'s Stout Lbr. Co. 1, nw ne 33-16-13, rur.

COLUMBIA COUNTY — J. G. Cubage's Rhea 1, sw se se 12-17-22, spd dr 100 ft. Southern States Gas Co.'s Pine Woods Lbr. Co. 1, sw ne nw 10-20-22, sd 960 ft.

HEMPSTEAD COUNTY—F. W. Martin et al's Lafferty 2, se nw 17-14-27, dk.

LA FAYETTE COUNTY—W. H. Harvey's R. F. Allen 1, ne se sw 13-19-23, dk. Leach et al's Bodcaw Lbr. Co. 1, 20-16-25, lcn. S. H. Riggs et al's DuBose 1, se sw nw 35-15-24, sd for formation tester, td 2817 ft. Transportation Pet. Co.'s Cochran Est. 1, ne se 25-19-25, dk and mir. Red River Lbr. Co. 1, w sw 26-19-25, elev 250 ft, top Nacatosh 1804 ft, top Ozan 2740 ft, arr set 9-in csg, td 4300 ft.

MILLER COUNTY—C. J. Hodges et al's Commercial Nat. Bank 1, sw ne se 30-17-28, dk. King Oil Corp.'s E. G. Anderson 1, nw sw ne 16-14-27, sd 2570 ft. Lee Timberlake's Frost Lbr. Co. 2, sw sw se 27-15-26, dr 1120 ft.

MONROE COUNTY — Beaver Pet. Co.'s Stinson 1, sw se sw 27-4n-2w, sd for csg 190 ft.

OUACHITA COUNTY—T. J. Gaughan et al's M. Bragg 4, nw ne ne 26-13-18, dry sd 1355 ft.

POINSETT COUNTY—Rockwell Dev. Co.'s Fee 1, owdd, dr 232 ft.

UNION COUNTY—Gulf Ref. Co.'s Werner Lbr. Co. 49, sw nw sw 5-16-16, elev 128.5 ft, 10-in csg 2293 ft, 7-in OD csg 6224 ft. Permian salt 6665-7505 ft, anhydrite 7540-76 ft, dr 7585 ft, hd rock. Mrs. R. K. Jones' J. Davis 1, nw nw 28-16-14, arr test, td 3295 ft. Ohio Oil Co.'s Sam Oliver 2, nw sw sw 7-17-13, lcn. E. O. Old's Telford 1, nw nw 35-17-15, sd 2211 ft. Wallingsford & Cobb's Laney 1, 32-19-16, lcn.

CALIFORNIA

KERN COUNTY

ARVIN—General's Mattson 1, 1-32-29, dr sand 6009 ft.

BELRIDGE—Continental's Maylan 1, 7-28-20, sd 5304 ft.

BUENA VISTA LAKE—Shell's B. V. A. 1, 9-32-25, dr silty claystone 7573 ft.

BUTTONWILLOW—Milham Explor. Co.'s No. 12-6, 6-28-23, rur.

CALIENTE CREEK—Hutcheson & Osborne's O & H 1, 32-30-30, sd 1078 ft. Woodward Oil Co.'s Wirth 1, 36-29-29, running liner 471 ft.

COMANCHE POINT—Tejon Ridge Oil Co.'s No. 1, 23-32-29, co 1942 ft.

DELANO—Cimarron Oil Corp.'s Quinn 1, 14-25-27, sd 2385 ft.

GRAPEVINE—Silver Gate Co.'s Tejon 1, 7-10-19, dr hard shale 1460 ft.

GREENFIELD—United Explor. Co.'s Ricomini 1, 23-30-27, lcn.

KERN RIVER—D. D. Lucas' No. 1, 26-29-29, sd 519 ft.

KERNELL—Standard's Rideout 1, 34-24-23, swabbing 2460 ft.

LOST HILLS—Standard's United 1, 2-26-20, dr shale 5121 ft.

SO. BUTTONWILLOW—Seeple Oil Corp.'s No. 1, 5-30-24, sd 3762 ft.

SOUTH DOME—Continental's Gatchell 28-7, 7-25-20, dr hard sand 6906 ft.

TEMBLOR HILLS—Robt. Foster's No. 1, 2-32-22, sd 2975 ft.

WHEELER RIDGE — Reserve Oil & Gas Co.'s Tejon 1, 12-10-19, r 1267 ft.

MISCELLANEOUS

KINGS COUNTY—Commonwealth Consol Gas Co.'s No. 2, 21-22-20, sd 2475 ft.

FRESNO COUNTY—Taft Well Dr. Co.'s Kreyenhagen 1, 33-22-16, r core hole 3330 ft.

HUMBOLDT COUNTY—Texas Co.'s Eureka 1, 1-3-2, td 6133 ft, plug 5850 ft, checking fluid rise.

SACRAMENTO COUNTY—Great American Pet. Co.'s Howard 1, 25-2-8, dr hard sand 3018 ft.

SAN JOAQUIN COUNTY—Amerada's F. D. L. 1, 15-2-15, to recement td 5875 ft; F. D. L. 2, 15-2-15, bldg rig.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, coring sandy shale 4660 ft.

TULARE COUNTY—Pacific Explor. Corp.'s Castle 1, 17-21-27, lcn.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, dr gray and black shale 3762 ft.

SANTA BARBARA COUNTY

GOLETA—Shell's Hollister 1, 10-4-29, dr sand 1426 ft.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, dr out cement td 1028 ft.

VENTURA COUNTY

BARDSDALE—El Rancho Oil Co.'s Elkins 1, 9-3-19, sd 1083 ft. Union Oil Co.'s Dryden 1, 12-3-20, dr sand and shale 3604 ft.

CONEJO — International Oil Developers' Powell 1, 33-2-20, testing 3060 ft.

FILLMORE—Texas Co.'s Unit Plan 2-1, 29-4-19, rur.

HOPPER CANYON—Oil Ridge Oil Co.'s Moran 3, -14-19, sw abbing 1660 ft.

LAS POSAS—Las Posas Pet. Co.'s Mahan 1, 22-3-20, dr out cement td 8129 ft.

OXNARD—General's McGrath 1, (?)-1-22, dr sandy shale 1128 ft.

SANTA PAULA—High Mesa Oil Co.'s Butcher 1, 16-4-22, sd 650 ft. Edw. M. Lesperance's Boosey 1, 31-4-20, sd 1975 ft.

SHIELLS CANYON—Henry R. Dabney's McGuire 1, 2-3-19, sd 500 ft. Texas Co.'s Shiells Canyon 128, 4-3-19, td 7423 ft, plug 5265 ft, ran perf liner, sd.

SIMI—Paloma Oil Co.'s Paloma-Marr 1, 12-2-18, dr hard sand 2320 ft.

SO. MOUNTAIN—Calco Pet. Corp.'s No. 2, 17-3-20, dr hard sand 3250 ft.

SOUTHERN CALIFORNIA

ARTESIA—Vanco Dev. Co.'s Millard 1, 25-3-12, td 5660 ft, gas sand 5620-40 ft, stuck core bbl.

BANDINI—Western Gulf's Vail 1, 16-2-12, dr sand and shale 6320 ft.

DEL REY HILLS—Winoca Prod. & Ref. Co.'s Mesmer 1, 26-2-15, foundations.

EL SEGUNDO—Republic Pet. Co.'s No. 1, 18-3-14, coring hard shale 6580 ft.

NEWPORT—Wilshire Oil Co.'s Newport 1, 29-6-10, dr gray sand 1662 ft.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, dr hard sand and shale 3907 ft.

RICHFIELD—C. H. Shannon's Day 1, 21-3-9, td 5777 ft, plug 2257 ft, pumping water scum of oil.

SAUGUS—Barstow Oil Co.'s Walker 1, 35-5-16, sd 4043 ft. International Oil Developers' Powell 1, 34-5-16, shut in 4339; Powell 2, 34-5-16, running gas and water lines.

TORRANCE—Eyers Pet. Corp.'s No. 1, 20-4-13, preparing to spud.

WILEY CANYON—Saratoga Oil Co.'s No. 1, 17-3-16, grading lcn.

SAN BERNARDINO COUNTY — Great American Pet. Co.'s Gapco D1, 18-2-8, sd 1005 ft.

COLORADO

ARCHULETA COUNTY — William B. Hughes Estate's Feel, sw 24-33n-28w, dr 150 ft.

BOULDER COUNTY—L. R. Steele's Maxwell 1, se ne ne 24-1n-71w, dr 1250 ft, so & g.

GRAND COUNTY — Colo. Oil Ref. Co.'s Linke 1, ne sw sw 13-1n-77w, dr 2100 ft, sg.

MONTEZUMA COUNTY — McElmo Oil Co.'s West 1, se nw ne 31-36n-17w, waiting on csg 3131 ft.

MORGAN COUNTY—Swisher et al's Lunt 1, sw sw sw 3-4n-60w, running 6¼-in csg 710 ft.

PARK COUNTY—South Park Oil Co.'s State 1, se se sw 16-11s-75w, dr 1725 ft.

FLORIDA

HILLSBOROUGH COUNTY—Southern Pet. Co.'s Mizell & Williams 1, 4-32s-21e, arr resume 2100 ft.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, se se 17-24s-25e, elev 100 ft, arr set csg, td 1946 ft.

PINELLAS COUNTY—Dr. Edward A. Hill, fee not given, ne ne 2-27s-16e, dk.

POLK COUNTY—Edward A. Hill et al's fee not given, nw nw 32-25s-25e, dk.

KANSAS

BARBER COUNTY—Wentz's Skinner 1, cnw ne 29-31s-14w, hfw 3538-3548 ft, dr 3575 ft. Southern Drilling Co. et al's Davis 1, sw se ne 13-34s-15w, dr 4937 ft.

BARTON COUNTY—Pryor & Lockhart's Herrington 1, ne ne nw 6-16s-12w, abn 3387 ft. Lario & McCoy's Dolechek 1, ne nw ne 13-16s-12w, abn 3328 ft. Price et al's Ehrlich 1, nw nw se 10-16s-13w, hfw 2100-2120 ft, running 8-in csg. Lario O&G Co. et al's Nuss 1, nw sw sw 11-16s-14w, abn. Suppes & Witt's Hays 1, nw nw nw 7-16s-15w, dr 2430 ft. Palmer Oil Co.'s Morris 1, se nw ne 6-19s-15w, hfw 470 ft, dr 780 ft.

BUTLER COUNTY—Western Kansas P&R Co.'s King & Marshall 1, nw nw sw 11-28s-6e, dr 1590 ft. Polhamus et al's Semisch 2, cs½ ne ne 5-28s-7e, hfw 2120 ft, dr 2190 ft.

COWLEY COUNTY—Wakefield's Tharp 1, se se ne 10-32s-3e, dr 1395 ft. Baden, Johnson, Roth & Farrout's David 1, ne ne sw 35-30s-4e, dr 1595 ft.

ELK COUNTY—Hicks et al's Lewis 1, sw se se 35-31s-10e, pumped 192 bbls oil.

ELLIS COUNTY—Joe Aylward's Dreiling 1, se se se 3-14s-16w, dr 3025 ft. Helmerich & Payne et al's Kuhn 1, nw sw ne 16-14s-20w, dr

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

* —*dry hole abandoned well.*	owdd —*old well drilling deeper.*
‡ —*salt water (completions.)*	owpb —*old well plugging back.*
† —*junked and abandoned.*	pb —*plugged back or plugging back.*
¶ —*million feet of gas.*	r —*reaming.*
abd —*abandoned.*	rog —*rig on the ground.*
bbls —*barrels.*	rur —*rigging up rotary tools.*
br —*building rig.*	rust —*rigging up standard tools.*
b.s. —*basic sediment.*	sd —*shut down.*
csg —*casing.*	sdtr —*sidetracking.*
co —*cleaning out.*	sg —*show gas.*
dd —*drilling deeper.*	si —*shut in.*
dk —*derrick.*	so —*show oil.*
dr —*drilling.*	so & g —*show oil and gas.*
fsg. —*fishing.*	spd —*spudding.*
ft —*feet.*	sr —*straight reaming.*
hfw —*hole full of water.*	sw —*salt water.*
in —*inches.*	td —*total depth.*
lcn —*location.*	ur —*underreaming.*
m —*milling.*	wih —*water in the hole.*
mim —*moving in materials.*	wo —*workover.*
mit —*moving in tools.*	wocs —*waiting on cement to set.*
mot —*milling on tools.*	wosr —*waiting on standard rig.*
n, s, e, w, —*north, south, east, west.*	
oih —*oil in hole.*	

3480 ft. Palmer et al's Ruder 1, se ne nw 17-15s-18w, ur 8-in csg 3253 ft. Stanolind's Penny-Wann 1, nw sw se 12-15s-20w, Halliburton test 3323-3327 ft, coring 3472 ft.

ELLSWORTH COUNTY—Lario et al's State 1, sw sw sw 29-15s-8w, td 3937 ft, pb 2525 ft, co.

GRAHAM COUNTY—Helmerich & Payne et al's Stites 1, csw sw 8-10s-22w, coring 3660 ft. Vickers & Phillips' Hutton 1, ne ne se 29-8s-22w, mim.

HARPER COUNTY—Kessler & Their et al's Wolfje 1, sw sw ne 17-33s-6w, dr 2890 ft.

HARVEY COUNTY—Twin Drilling Co. et al's Ruth 1, sw sw sw 16-22s-2w, abn 3758 ft. Winkler & Koch et al's Mueller 1, se sw nw 15-23s-2w, dr 3210 ft. H.H.&S. Oil Co.'s Frizzle 1, ne ne se 31-23s-2w, dr 1630 ft. Hartman & Blair's Redinger 1, nw nw nw 15-24s-3w, dr 2290 ft.

KINGMAN COUNTY—Kingman's Wetherall 1, ne ne sw 20-28s-10w, dr 4060 ft.

McPHERSON COUNTY—Brosius et al's Henson 1, ne ne sw 15-17s-2w, sd 1108 ft. Carey et al's Husband 1, se se nw 6-19s-3w, spd. Washabaugh et al's Berg 1-A, sw sw ne 15-20s-3w, rog. Hollow, Toews, Hinkle's Aschman 1, nw nw se 8-21s-4w, dr 1330 ft.

RENO COUNTY—Allison-Fitzwilliams et al's Dukelow 1, ne ne ne 11-22s-8w, dr 630 ft. Anderson Kerr's Davies 1, ne ne ne 28-23s-7w, dr 760 ft. Haynes Brothers et al's Mueller 1, se se nw 30-24s-4w, set 7-in csg 3365 ft, wocs. Gypsy's Tonn 1, sw nw se 16-25s-4w, abn 4151 ft.

RICE COUNTY—Vickers Pet. Co. et al's Gouldner 1, se ne nw 16-18s-9w, pumped 632 bbls oil 17 hrs on potential gauge. Detrick et al's Monroe 1, cne ne 9-20s-7w, spd & sd. Fred Rust et al's Brown 1, ne ne ne 16-21s-8w, ru & sd. Day's Mason 1, nw ne ne 28-21s-7w, sd 2510 ft. Three Rivers Oil Co.'s Buehler 1, nw nw nw 17-18s-8w, dr 395 ft. Aylward et al's Rickard 1, sw sw nw 22-18s-9w, cellar.

ROOKS COUNTY—El Dorado Ref. Co. et al's Marshall 1, cse se 8-7s-17w, ru. Smith-Ash's Nelson 1, nw nw ne 27-10s-16w, dr 2115 ft. Tree Oil Co. & Findeiss' Johnson 1, sw sw se 26-10s-19w, dr 2422 ft.

RUSH COUNTY—Lario, Madison & Hewitt's Gillig 1, ne se nw 24-17s-17w, dr 2075 ft. Twin Drilling Co. et al's Appl 1, sw sw ne 29-17s-17w, dr 2305 ft. Boyle & Grossman et al's Yost 1, csw sw 23-17s-18w, hfw 3554-3650 ft, co 3636 ft. Ramsey Pet. Co. et al's Darkes 1, sw sw nw 5-17s-20w, rust 3520 ft. Gypsy's Kraisinger 1, se ne se 23-18s-17w, rur.

RUSSELL COUNTY—Winkler-Koch et al's Herman 1, se se nw 27-12s-15w, 3 bbls water 3120-3125 ft, dr 3230 ft. Roth & Farrout's Shaffer 1, nw nw ne 31-13s-12w, dr 414 ft. Stearns & Streeter's Dreling 1, sw sw sw 8-13s-15w, ru. Hartman & Blair's Mills 1, se se sw 27-13s-15w, rig. Hartman & Blair's Rexroot 1, ne nw nw 31-14s-14w, 2900 ft oih 3168-3184 ft. Wakefield & Armer's Hall 1, ne se sw 35-14s-15w, co. J. Brouk & R. D. Bailey's Kluesner 1, nw nw se 34-15s-12w, dr 2140 ft. Coraleana's Flegler 1, se se se 11-15s-14w, dr 300 ft. Reynolds' Frederickson 1, se sw se 6-13s-12w, cellar.

SCOTT COUNTY—Atlantic's Mark "A" 1, cse se 28-20s-33w, abn 5645 ft.

SEDGWICK COUNTY—Dickey et al's Chase 1, se se se 11-27s-2e, dr 470 ft. Derby et al's Bartholomew 1, sw sw nw 8-27s-4w, dr 3607 ft.

STAFFORD COUNTY—Empire's Grove 1, ne ne nw 5-22s-11w, dr 2690 ft. Davis et al's Riley 1, se se se 19-22s-11w, potential 185 bbls oil, pb 3603 ft.

SUMNER COUNTY—Allison & Fitzwilliams et al's Hitchcock 1-B, se se nw 16-30s-1w, sd 2940 ft. Winkler & Koch et al's Belsley 1, sw sw nw 2-32s-2w, dr 362 ft.

TREGO COUNTY—Hansa & Lauck's Lang 1, se se nw 1-14s-21w, coring 3485 ft. Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, rig.

WOODSON COUNTY—Connell & Marshall's Klick 1, sw nw sw 20-25s-14e, prod 1,000,000 ft gas 1390-1396 ft, so.

NORTH LOUISIANA

BOSSIER PARISH — Bossier O&G Co., Inc.'s Sherrell 3, se se 13-19n-12w, sd repr rig 825 ft. W. A. Kirklin, Tr.'s Garrett & McKellar 1, se nw nw 3-21n-13w, sd 2405 ft. W. E. Neill et al's Curtis Plantations 1, se se 19-17n-12w, cemtd 12½ in csg 200 ft. Plain Dealing Synd.'s Dodson 1, nw sw se 25-23n-13w, spd cemtd 10-in csg 285 ft. Producers O&G Co.'s E. C. Edwards 1, se sw 27-18n-11w, spd dr 40 ft. Richplain Oil Co.'s Gaines 1, nw nw 22-22n-13w, 6-in csg 2835 ft, tested sw and so, sd 2842 ft. A. H. Richardson's Nattin 1, ne sw 15-22n-14w, spd. L. R. Skidmore's Davis 1, se se 12-18n-13w, claim sg, arr make ds test, td 2097 ft. The Leonard Co.'s Pearson 1, 22-21n-14w, sd 3410 ft.

CADDO PARISH — Haynes Prod. Co.'s (formerly Haynes Oil Co.) Tyson 1, nw se 24-23n-16w, spd cemtd 9⅝ in csg 2080 ft. F. D. Hyde et al's Thigpen-Harold 1, nw nw se 5-15n-15w, dr 1160 ft. A. D. King, Tr.'s Roach 1, 4-14n-16w, swabbed sw and so after using acid 2712 ft, chalk, arr deepen. United Gas Pub. Serv. Co.'s D. F. Barr 1, 29-23n-16w, elev 283.4 ft, 7-in csg 5612 ft, dr 5660 ft. Thomas Unit 1, ne nw nw 23-23n-16w, dk. I. L. Young 1, se se 21-23n-16w, elev 209.13 ft, 7-in csg 5590 ft, flowed 925 bbls oil into tank, killed, setting 5-in csg over liner, td 6048 ft sandy oolitic lime.

CALDWELL PARISH—Critchett & Woods' La. Cent. Lbr. Co. 1, se nw ne 18-11n-3e, 6⅝ in csg 1704 ft, testing td 1716 ft. G. C. Davis et al's La. Cent. Lbr. Co. 1, sw sw 14-11n-3e, sd 1850 ft. G. W. Zeigen et al's La. Cent. Lbr. Co. 1, nw sw sw 25-13n-3e, dr 1120 ft.

CATAHOULA PARISH—McIntyre et al's Tensas Delta 1, sw nw ne 18-10n-2e, sd 210 ft.

CLAIBORNE PARISH—J. C. King et al's Odis Webb 1, nw ne 21-21n-8w, elev 265.6 ft, top Annona chalk 2335 ft, top Blossom 2630 ft, sd 2640 ft Blossom. E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, elev 357.3 ft, top Cane River 650 ft, 12½ in csg 655 ft, dr 1000 ft.

DE SOTO PARISH—Flesh & Hootkins' Farmer 1, se se 14-12n-13w, rebld dk and rur, td 3035 ft after blowout. Frailey et al's J. E. Stell 1, 5-12n-16w, rur. C. T. Ruffin's Elmo P. Lee 1, nw sw 33-14n-13w, 6⅝ in csg 2785 ft, top Tokio 2811 ft, dry with so 2825 ft, dr 2835 ft. M. L. Stephens et al's Alston 1, ne sw 11-11n-16w, spd 10-in csg 20 ft. The Hunter Co.'s DeSoto Corp. 1, nw nw 29-12n-14w, tested 700,000 cu ft gas, setting csg 2781 ft, td 2820 ft.

EAST CARROLL PARISH—Century Oil & Drlg. Corp.'s Olivedell Pltg Co. 1, 56-21n-12e, sdtr at 2395 ft, old td 2540 ft, black shale.

GRANT PARISH—Alexander et al's Maxwell 1, 9-9n-1e, ru and sd.

JACKSON PARISH—American Liberty Oil Co.'s Lusk 1, cent ne ne 1-16n-1w, 12½ in csg 275 ft, dr 3252 ft sandy shale.

MADISON PARISH — Southern Land & Expl. Co.'s Deltic Inv. Co. 1, nw nw 1-17n-12e, 12½ in csg 200 ft, dr 1925 ft.

MOREHOUSE PARISH—J. H. Gibson et al's Thomas 1, ne ne 16-22n-7e, 10-in csg 200 ft, dr 1420 ft. Zeigen & Bacon's Crossett Lbr. Co. 2, se sw 36-23n-6e, spd and sd.

NATCHITOCHES PARISH—Clyde Creighton et al's Friedman Est. 1, swc 52-7n-6w, sd for electrical tester, td 3560 ft. Edwards & Turner's Prudential Life Ins. Co. 1, nw nw 26-10n-6w, dk. Howard & Kittrell's De Blieux 1, nwc 83-10n-7w, 12½ in csg 190 ft.

OUACHITA PARISH — American Liberty Oil Co.'s Golson 1, cent nw nw 25-17n-1e, dr 3135 ft.

RED RIVER PARISH—Howard & Kittrell's Chaffraix 1, 30-12n-10w, dk.

SABINE PARISH—M. T. Hines' J. B. Hill 1, sw ne 4-6n-11w, dr 3000 ft.

UNION PARISH — Crescent Drlg. Co.'s Woolie 1, ne ne 34-19n-1e, dr 2210 ft. J. I. Roberts Drlg. Co.'s Seale 1, sw se sw 7-23n-1e, dr 2515 ft. Southern Prod. Co.'s W. E. Clark 1, se nw nw 17-23n-1e, sd 2296 ft.

WEBSTER PARISH—Burnett et al's Fulbright 1, ne ne 1-18n-10w, dk.

WINN PARISH—P. E. Parson's et al's Tremont Lbr. Co. 1, nw sw 10-12n-2w, dk and mir.

LOUISIANA GULF COAST

ACADIA PARISH — Continental's Theogen Ortigo 1, 6 mi nw of Iota, sec 28-7s-2w, dr sand 8096 ft. Humble's Rice Milling Co 1, s of Crowley, sec 27-10s-2e, abd 9308 ft.

CALCASIEU PARISH—Nichols' McCaleb's Gray 1, 9 mi nw of Starks field, sec 22-8s-13w, dr gumbo 1555 ft.

CAMERON PARISH—Magnolia's Broussard 1, sec 13-12s-9w, stuck drill stem at 7890 ft.

EAST BATON ROUGE PARISH—Superior's Duplantier Community 1, s of Baton Rouge, sec 65-7s-1w, preparing to sdtr at 4400 ft.

IBERIA PARISH—Meade Oil Co's De Rouen 1, ne of Jefferson Lake, sec 38-12s-5e, sd 200 ft clay. The Texas Co's State Lake Fausse Point 1, s flank of Dome, sec 35-11s-8e, sdtr 2495 ft.

JEFFERSON DAVIS PARISH—H. M. Naylor's Boudreaux-Johnson 1, sec 39-10s-3w, sd 800 ft.

ST. BERNARD PARISH—Emerald Pet. Co's Shell Beach Properties 1, s edge of Bayou Louis, sec 31-13s-15e, sd 7380 ft.

ST. MARTIN PARISH—Texas Co's St. Martin Land 7, Henderson prospect, sec 9-8s-7e, dr water sand 6896 ft.

VERMILION PARISH — Delcambre & Sheldon's Delcambre 1, Jefferson Island, sec 63-12s-5e, dr 780 ft.

MICHIGAN

MIDLAND COUNTY—Brehm and Hollman's Gould 1, 15n-2w-19, dr 2700 ft.

ISABELLA COUNTY — McClanahan Oil Co.'s Currie 1, 16n-4w-34, dr 2500 ft. United Driller's Vandercook 1, 15n-3w-24, sd 2640 ft.

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Base Station Use

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AMERICAN ASKANIA CORPORATION

HOUSTON CHICAGO

ASKANIA

Atha Oil Co.'s Fordyce 1, 16n-5w-34, dr 2100 ft.

GLADWIN COUNTY—Sun Oil Co.'s Hines 1, 17n-1w-31, acidized, swabbed 4 bbls oil, sd, will shoot, td 3998 ft; Peterson 1, 17n-1w-19, dr 1900 ft; Fanslau 1, 18n-2w-6, crooked hole 180 ft. Strange Oil & Gas Co.'s Spicer 1, 17n-2w-11, sd 3918 ft, 2400 ft oil in casing, testing, may treat.

CLARE COUNTY—Farwell Oil & Gas Co.'s Siegel 1, 17n-5w-26, dr 3600 ft. T. K. Buzard's Newell 1, 17n-3w-19, dr 50 ft.

MECOSTA COUNTY—Jetter Oil Co.'s Parsley 1, 14n-10w-19, 3390 ft. Larson and Flynn's Swanson 1, 13n-10w-11, dr 700 ft.

OSCEOLA COUNTY — Gordon Oil Co.'s Giese 1, 18n-10w-34, dr 1300 ft. Sun Oil Co.'s McLaughlin 1, 17n-8w-35, sp.

NEWAYGO COUNTY—C. W. Teater's Sawyer 1, 12n-12w-5, sd 2400 ft, sg.

MONTCALM COUNTY—L. E. Duvall's Eiknorch 1, 11n-10w-13, co 1340 ft. Rex Oil & Gas Co.'s Olsen 1, 9n-7w-14, csg 5-in 3114 ft, lime 3107 ft. Gordon Oil Co.'s Paulson 1, 12n-9w-24, dr 1400 ft; Keyt 1, 12n-8w-21, fsg 780 ft. Ide Oil & Gas Co.'s Tow 1, 11n-5w, nw nw sw, sec 6, dr 200 ft.

GRATIOT COUNTY—Newark Oil & Gas Co.'s Beck 1, 10n-3w-29, dr 3240 ft. Michigan Gas & Oil Co.'s Dean 1, 11n-3w, csg 8-in 775 ft. Bila Oil Co.'s Ryan 1, 10n-1w-32, dr 790 ft. Mid State Dev.'s Anderson 1, 11n-3w-20, dr 400 ft. St. Louis Pipe & Supply Co.'s Loganbach 1, 12n-2w-10, sd 730 ft. John Pentkowski's Sharrar 1, 11n-4w, nw ne-23, rig.

ROSCOMMON COUNTY—Black Diamond's Vaughan 1, 24n-4w-28, acidized, 3900 ft, testing. Durham and Jones' Eggleston 1, 21n-2w-9, drive 645 ft, dr 700 ft.

IONIA COUNTY—J. V. Wicklund's Cutler 1, 8n-3w, nw sw nw, sec 10, mim. Gordon Oil Co.'s Fee 1, 8n-4w-30, rig.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, dr 1085 ft.

GRENADA COUNTY—W. L. Stewart's W. W. Wood 1, se ne 19-22n-5e, dr 3005 ft, Tuscaloosa red beds.

MADISON COUNTY——Cleve Love et al's P. F. Simpson 1, nw nw 30-8n-1w, lcn.

MONROE COUNTY—P. J. McAlpine et al's Crook 1, nw ne ne 4-13s-18w, elev 413.6 ft, running 6-in csg to test sg 2530-37 ft, td 2537 ft sand.

RANKIN COUNTY — Cleve Love et al's Ascher 1, nw ne ne 18-5n-2e, elev 275 ft, arr set csg td 2450 ft, chalk.

WINSTON COUNTY—Jack Vale's Moody 1, sw nw sw 3-13n-14e, elev 540 ft, did not make ds test, arr set csg after reported sg, td 2250 ft, green sand (Eutaw).

MONTANA

BIG HORN COUNTY—Enterprise Oil Co. and Norbeck Drilling Co.'s Lynde 2, sw nw se 21-6s-35e, dr 3650 ft.

CARBON COUNTY—Bailey Round Butte Oil Co.'s Test 1, ne se 3-6s-23e, dr 917 ft.

FERGUS COUNTY—Emmons et al's Test 1, ne se 6-20n-18e, dr 986 ft.

GALLATIN COUNTY — Montana Gas and Pet. Co.'s Tyce 1, ne ne ne 28-1n-2e, dr 2251 ft.

PETROLEUM COUNTY — Hardendorf & Keyes' Austad 1, sw nw nw 22-13n-28e, dr 318 ft.

PONDERA COUNTY—Texas Co.'s Unit 5-1, csw sw 3-30n-5w, dr 600 ft. Norden Corp.'s Hollan 1, nw nw 12-28n-6w, dr 250 ft.

ROSEBUD COUNTY—Birney O&G Co.'s Feel, sw sw sw 6-6s-42e, dr 411 ft.

STILLWATER COUNTY — Continental's Orr 1, sw nw se 18-5s-17e, wocs 2945 ft.

TOOLE COUNTY—Kyles' Clark 1, csw se 24-37n-1w, dr 1065 ft. Fraser & Klut's Severence 1, cse se 29-32n-2e, dr 1621 ft.

NEW MEXICO

CHAVES COUNTY—John Tannehill's Campbell 1, ne se ne 1-11s-25e, fsg 645 ft.

EDDY COUNTY—Dooley et al's Commerce Trust 1, nw ne sw 8-20s-27e, changing to st 1800 ft.

McKINLEY COUNTY — R. W. Anderson's No. 1, ne nw 21-20n-9w, material.

OTERO COUNTY—Flynn, Welch & Yates' Donohue 1, cnw ne 28-24s-15e, Sacramento Creek structure, fsg 1668 ft.

SANDOVAL COUNTY—Continental's L-Bar Cattle Co. 1, se 2-13n-4w, dr 1236 ft.

SAN MIGUEL COUNTY—Cabra Springs O&G Co.'s Pino Mesa, sw ne ne 22-12n-22e, dr in shale 4067 ft. Cabra Springs' West Pino Mesa 2, sw sw sw 31-12n-22e, dr 726 ft.

EDDY COUNTY—Geo. F. Getty's Andrew Dooley 7, swc nw 24-20s-29e, elev 3309 ft, rust, td 6053 ft.

LEA COUNTY—Amerada's H. F. Andrews 1, c nw nw 12-20s-36e, Monument area, elev 3576 ft, top anhydrite 933 ft, top salt 1195 ft, cem 9⅝ in csg on brown lime 2310 ft. Argo Royalty Co.'s B. A. Burner-The Texas Co. 2, c se se 8-20s-32e, elev 3584 ft, top salt 1025 ft, base salt 2345 ft, dr 2400 ft. Anderson-Prichard Oil Corp.'s Fisher 1, c se ne 8-20s-35e, elev 3690 ft, top anhydrite 1945 ft, top salt 2000 ft, fsh 4454 ft. Culbertson & Irwin's Eva Brown 1, c ne ne 23-21s-32e, bldg roads; Sue Richardson 1, c sw se 10-21s-32e, bldg roads. Amon G. Carter et al's G. H. Mattix-Conoco 1, c se nw 3-24s-37e, elev 3528 ft, top anhydrite 1090 ft, top salt 1225 ft, top brown lime 2547 ft, pb fr sulphur water at 3908-13 ft, to 3885 ft and shot 160 qts nitro at 3500-3650 ft, co and swabs 45 bbls oil. R. H. Henderson et al's P. J. Langley 1, c se se 8-25s-37e, elev 3162 ft, top salt 1205 ft, dr 3355 ft with 150 ft oih. Humble's J. L. Coates 1-A, nw ne 10-24s-36e, elev 3385 ft, top anhydrite 1323 ft, top salt 1433 ft, gauged 64 bbls oil per hr via ¾-in choke on tubing from lime at 3500-3560 ft. Jeffers Oil Co. (R. H. Henderson's) C. M. Carlson 1, c nw se 27-25s-37e, elev 3025 ft, dr 655 ft; Britt-Conoco 1, c se nw 7-20s-37e, Monument area, elev 3554 ft, dr 540 ft. Harry Leonard et al's C. W. Justis 1, swc nw nw 20-25s-37e, elev 3067 ft, dr 2170 ft. Maljamar O&G Corp.'s L. R. Simon 1, c ne ne 29-17s-32e, Maljamar field, lcn; P. Miller 1, c nw se 23-17s-32e, elev 3992 ft, pb fr sw at 4195 ft to 4170 ft, swabs 40 bbls oil daily. Ohio Oil Co.'s State-Maxwell 1, c ne nw 16-22s-36e, s Eunice area, elev 3573 ft, sd for w at 1470 ft. Skelly's E. Coates 1, c sw se 3-24s-36e, Cooper area, elev 3392 ft, dr 500 ft. Sun's W. B. Maveety-Weir 1, c ne se 35-19s-36e, Monument area, elev 3601 ft, top anhydrite 1008 ft, top salt 1160 ft, first oil pay 3801 ft, best pay 3850-3935 ft, testing; H. S. Record 1, c nw nw 22-22s-36e, s Eunice area, cem sur cas. Superior Oil Co. (Cal.'s) State 1, c ne ne 2-20s-36e, Monument area, elev 3596 ft, top anhydrite 980 ft, swab and flows by heads after treating with 12,000 gallons acid solution on three occasions in lime at 3945 ft. Texas' Saunders 1, c se sw 18-19s-37e, Monument area, elev 3693 ft, top anhydrite 1288 ft, top brown lime 2585 ft, showed oil on drill stem test in lime at 3953 ft. TP Coal & Oil Co.'s State 1, lse 2, c se sw 9-22s-36e, s Eunice area, elev 3567 ft, dr 1100 ft.

OKLAHOMA

ATOKA COUNTY—Pierce et al's Aetna Life Ins. 1, nw sw ne 10-1n-13e, dr 852 ft, carrying 12¼-in csg 832 ft. Vierson et al's Williams 1, ne sw nw 34-2s-10e, spd. Fleetborn's Fulton 1, sw sw sw 19-1s-12e, rur.

BECKHAM COUNTY—Cluck's Riley 1, nw nw nw 36-9n-25w, mit for 2800-ft test. United Carbon Industries' Eason 1, cnw nw 11-9n-25w, td 3483 ft, prod 8,000,000 ft gas.

BRYAN COUNTY—Trio Oil Co.'s Gilbert 1, sw ne sw 25-8s-7e, ur csg 863 ft. Welch's Collins 1, sw sw nw 19-8s-8e, dr 745 ft.

CADDO COUNTY—Denver P&R's Sah-Cam 1, cse se 33-10n-10w, td 7630 ft, woc. H. W. Lee et al's Stacey Ferrell 1, sw ne ne 3-6n-13w, sd 2322 ft. Turner et al's Sapin 1, ne ne sw 1-5n-11w, dr 1665 ft.

CARTER COUNTY—Waco Turner's Munson 1, ne nw ne 35-5s-2w, sd 4605 ft. Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, dr 6525 ft.

CHOCTAW COUNTY—Burns et al's Hallum 1, ne nw nw 4-7s-20e, dr 30 ft. Abernathy's Christian 1, sw se se 1-6s-19e, running 8-in csg 494 ft.

COAL COUNTY—Carter et al's Thompson 1, csl ne nw 34-2n-9e, sr 3714 ft. Amerada & Stanolind et al's Travelers Life Ins. 1, sw nw se 28-1s-9e, dr 3837 ft.

COMANCHE COUNTY—F. F. Stevens' Green 1, se se sw 11-1n-13w, abn 1746 ft. Carson's Barber 1, ne ne se 9-1n-11w, abn 503 ft.

GRANT COUNTY—Westgate's Clark 1, nw ne nw 17-29n-4w, spd. Wentz's Wirtz 1, se se nw 22-28n-4w, cellar. Helmerich & Payne's Crouse 1-A, cne sw 29-25n-8w, dr 6430 ft.

GREER COUNTY—Payne et al's Tressell 1, nw nw nw 1-7n-22w, co 1450 ft. Gled Oil Co.'s Simpson 1, ne ne ne 11-5n-22w, abn 1261 ft. Fred Morgan et al's Carder 1, csw se 19-4n-22w, fsg 3230 ft.

HUGHES COUNTY—Texas Co.'s Keeton 1, nw nw sw 4-8n-10e, pb 3715 ft, rust. Caprock Oil Co.'s Parks 1, sw sw se 34-7n-8e, rig. Earl Sadler's Scott 1, nw nw nw 23-7n-9e, mach.

JACKSON COUNTY—Triangle P&R Co.'s Fox 1, cnl se sw nw 11-3n-20w, dr 512 ft. Palo Duro Oil Co.'s Ealum 1, sw sw se 16-2n-21w, set 6⅝-in csg 1783 ft, dr 1824 ft. Gypsy's Boucher 1, nw sw sw 32-1n-19w, dr 2306 ft. Dengail Oil Co. et al's Robinson 1, se se ne 32-1s-22w, td 1613 ft, pb 250 ft, woc. Marshall & Burnham's Hess 1, nw se ne 27-1s-20w, sd 1160 ft.

JEFFERSON COUNTY—Howell's Curry 1, se se sw 36-4s-9w, lcn. Gypsy's James 1, sw se se 30-6s-6w, sd 2102 ft.

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JOHNSTON COUNTY—Neff's Rutherford 1, ne se nw 13-4s-5e, sd 45 ft.

KAY COUNTY—Marshall-Haddock et al's Hermes 1, sw sw nw 6-26n-4e, dr 385 ft in new hole. Lindsay's Waggoner 1, nw nw ne 3-27n-1e, dr 2401 ft.

LE FLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, 20-in csg 75 ft, wocs.

LINCOLN COUNTY—Stanolind's Cavanaugh 1, se se ne 31-15n-5e, coring 4565 ft. Texas Co.'s Niccum 1, se sw nw 28-14n-5e, td 4644 ft. Amerada & Stanolind's Connelly 1, se ne se 23-14n-2e, dr 1992 ft.

LOGAN COUNTY — Houghton Royalty's Langston 1, sw sw se 13-17n-1w, rig. Sinclair & Slick-Urschel's Koatsch 1, sw sw sw 23-15n-3w, flowed 85½ bbls oil. Freeland et al's Scrutchfield 1, nw nw ne 9-16n-1e, rog. Anderson-Kerr et al's Goodiun 1, ne ne ne 15-15n-3w, cellar.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, mir.

MAJOR COUNTY—I.T.I.O. & Continental's Fairview 1, csw se 32-22n-14w, dr 5320 ft.

MARSHALL COUNTY—Smith's Chestnut 1, ne ne ne 23-8s-5e, ru mach. Schermerhorn Oil Co.'s Rich 1, sw se se 35-4s-4e, dr 674 ft.

MURRAY COUNTY—Hernsby & Jones' Sadler 1, ne ne nw 20-1n-2e, mir. Bland et al's Center 1, ne ne ne 6-4s-2e, dr 728 ft. Equitable O&G Co.'s Ferguson 1, ne ne sw 36-1s-3e, dr 1765 ft.

NOBLE COUNTY—Harry Chapple's Ragan 1, nw se nw 29-21n-1w, td 1053 ft, ur 10-in csg. Atlantic's Strom 1, ne ne se 8-20n-1w, br.

OKFUSKEE COUNTY—Sunray's Culla 1, ne sw ne 13-12n-8e, mit.

OKLAHOMA COUNTY—Texas Co.'s Wood 1, sw sw ne 34-15n-4w, br. Gypsy & I.T.I.O. Co.'s Salisbury 1, nw ne ne 13-14n-4w, dr 5705 ft. Sinclair Prairie's Corbett 1, ne nw ne 17-13n-3w, to run pressure bomb.

PAWNEE COUNTY—Stanolind et al's Shunatana 1, ne sw se 32-22n-3e, dr 3230 ft.

PAYNE COUNTY—Amerada's Freidemann 1, se se se 28-19n-3e, coring 4260 ft.

PONTOTOC COUNTY—Phillip Boyle's McCracken 1, ne nw nw 31-5n-4e, pump salt water, pb 2167 ft. Franks' Abbott 1, sw nw ne 34-3n-6e, rig. Continental's McCarthy 1, csw nw 12-1n-7e, dr 405 ft. McBride et al's Copeland 1, se se nw 31-4n-5e, lcn.

PUSHMATAHA COUNTY—Wm. Ungerman's Messer 1, se sw sw 35-3s-18e, set 6-in csg 3300 ft, dr 3320 ft.

SEMINOLE COUNTY—Van Deventer et al's Bender 1-A, ne ne sw 3-8n-8e, fsg 2355 ft. Tom Phillips et al's Abbott 1, ne ne ne 33-8n-7e, flowed 135 bbls oil 20 hrs through csg. Carter & Shell's Brown C-41 1, cw½ se sw 23-8n-5e, dr 4350 ft.

TILLMAN COUNTY—Rock Island Ref. Co.'s Lynch 1, cse sw 35-1s-16w, fsg 1020 ft.

WASHITA COUNTY—McWhirter et al's Fee 1, nw sw sw 34-8n-19w, running 8¼-in csg 570 ft.

EAST TEXAS

ANDERSON COUNTY — Gulf's Southern Pine Lumber Co. 2-A (115-ac), J. C. Rosson sur, Camp Hill area, elev 655 ft, top Pecan chalk 3989 ft, dr 3900 ft; Southern Pine 3-A, (115.9-ac), elev 598 ft, dr 2000 ft. J. W. Luttes et al's C. M. McKee 1 (100-ac), W. F. Pool sur, 3 mi se of Frankston, elev 391 ft, Pecan chalk 3830-4390 ft, sd 4516 ft. Tide Water-Texas Seaboard's N. N. Wills 21-A, Cayuga field Trinity sand test, elev 308 ft, showing heavy gas pressure, coring 8780 ft; Shaw & Cern 1 (1216-ac), Daniel Parker sur, Long Lake area, elev 300 ft, Pecan chalk 3580-3618 ft, Austin chalk 4654-4905 ft, top first gas sand 5174 ft, cement 5½-in cas on oil sand 5354-5377 ft; C. T. Valentine 1 (301-ac), John Little sur, 9 mi n of Palestine, elev 454 ft, Pecan chalk 3621-3930 ft, Austin chalk 4725-4981 ft, top Woodbine series 5160 ft, pb fr sw sand 5282 ft, to 3000 ft, re-drilled to 4577 ft, fsh drill pipe at 3655 ft.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (40-ac), Jessie Milam sur, elev 272 ft, sd 1121 ft. Woodley & Bentley's Lumpkin 1 (245-ac), John McDermatt sur, mim.

CAMP COUNTY—E. J. Moran, G. E. & Ray Hubbard's W. M. Mitcham 1 (100-ac), L. Rose sur, 1½ mi n of Newsome, lcn.

CASS COUNTY—Stanley A. Thompson et al's G. H. Allen 1 (150-ac), Wm. King sur, 3 mi s of Hughes Springs, lcn.

CHEROKEE COUNTY—H. A. Baker & Florence Oil Co.'s Tol Smith 1 (40-ac), Jose Pineda sur, 4 mi nw of Jacksonville, elev 547 ft, Pecan chalk 3520-3937 ft, Austin chalk 4480-4688 ft, top Woodbine sand 4805 ft, dry and abd 4895 ft. Clark-Cowden Drlg. Corp.-R. J. St. Germain & L. J. O'Connor's J. G. Long 1 (54.65-ac), Don T. Quevado League, blk 13, 1 mi s of Mount Selman, elev 668 ft, sp and sd. Shell's New Birmingham 1 (1040.38-ac), Levi Jordan sur, Rusk pool, elev 487 ft, Pecan chalk 4046-4438 ft, dr 4500 ft. T. J. Wood & Young's New Birmingham 5 (160-ac), Levi Jordan sur, Rusk pool, rig.

FRANKLIN COUNTY—J. E. Farrell & Co.'s G. K. Ayres 1 (50-ac), Chas. H. Simms sur, elev 425 ft, top Pecan chalk 2425-2660 ft, Austin chalk 3785-3863 ft, top Woodbine sand 4292 ft, dry and abd in shale 4502 ft (corrected).

FREESTONE COUNTY—J. A. Hoover & J. A. Bain's W. W. McFall 1 (65-ac), S. Garrison sur A-749, dk.

GREGG COUNTY—L. P. Kean et al's S. M. Smith 1 (120-ac), W. W. Avery sur, dr 300 ft.

HENDERSON COUNTY—Edson Pet. Co.'s C. L. Loper 1 (3-ac), I. Clendennen sur, Cayuga area, lcn. Illinois Oil Co.'s C. R. Litchfield 1 (4½-ac), I. Clendennen sur, Cayuga area, lcn. C. D. Neff et al's H. G. Small 1 (20-ac), Isaac Greeson sur, 4 mi nw Cayuga field, elev 284 ft, Pecan chalk 2176-2225 ft, top Austin chalk 3150-3700 ft, top Woodbine sand 4024 ft, made sw on dst 4030-4054 ft, sd. O. M. Rector et al's C. L. Loper 1 (3½-ac), I. Clendennen sur, lcn. Taubert & McKee's M. T. Dodd 2 (160-ac), Geo. Aldrich sur, 3 mi e of Malakoff, dk. H. M. Wilson et al's fee 1 (943-ac), Thomas Caro sur, 5 mi n of Malakoff, dk. J. K. Wells et al's W. E. Warren 1 (121-ac), Thos. Hanna sur, 4 mi w of LaRue, lcn.

HOPKINS COUNTY—D. A. Hale et al's L. N. Hall 1 (70-ac), A. Caro sur A-143, elev 506 ft, Pecan chalk 1825-2040 ft, top Austin chalk 2728 ft, sd 2950 ft.

HUNT COUNTY — J. F. Morrissey Co., Inc.'s P. B. Fry 1-A (146-ac), Galloway Davis sur, 7 mi se of Ladonia, elev 561 ft, dr 2775 ft.

KAUFMAN COUNTY—G. H. Germany et al's D. Clark-W. S. Kirby 1, S. Edens sur, sd 1780 ft. Murray & Emerson's G. W. Martin 1 (100-ac), W. F. C. Butler sur, top Wolfe City sand 1625 ft, dr 1785 ft.

LEON COUNTY—Tide Water & Texas Seaboard's G. W. Burkitt 1 (645½-ac), Simon Sanchez sur A-7, Long Lake area, mim.

LIMESTONE COUNTY—Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Varella sur, Austin chalk 2350-2650 ft, top Woodbine 2890 ft, sd 3121 ft. J. Edward Mills et al's J. B. Hunt 1 (34¼-ac), Isreall Woods sur, 3 mi ne of Kosse, Pecan chalk 2010-2137 ft, Austin chalk 2780-3158 ft, top Woodbine 3578 ft, dr 3690 ft. Yandell Rogers, W. A. "Bill" Reiter & W. H. Foster's J. M. Tidwell 1 (230-ac), 2½ mi sw of Mexia field, dr 2500 ft.

MORRIS COUNTY—C. M. "Dad" Joiner et al's fee 1, Wm. Coffey sur, lcn. Steve J. Rotondi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, dr 1340 ft. B. L. Watson et al's E. Hall 1 (177-ac), Levi Jordan sur, 5 mi ne of Daingerfield, sd 4159 ft.

NAVARRO COUNTY—L. N. McCulloch et al's Berry Bros. 1 (35-ac), W. W. Moss sur, Austin chalk 751-1060 ft, top Woodbine 1384 ft, dr 1399 ft. E. M. Thomason & Co.'s Celia Moran 1 (100-ac), Wm. Haggard sur, top broken Austin chalk 1258 ft, top hard chalk 1288 to 1696 ft, base soft chalk 1728 ft, dr 2075 ft.

RAINS COUNTY—W. A. Allen-Geo. W. McClung & Harry B. Baker's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw of Emory, dk; Mrs. Olma Giles 1 (77-ac), Thos. Cunningham sur, 6½ mi sw of Emory, dk.

RED RIVER COUNTY—Porter Newman, Tr., et al's R. L. Gibson 1 (58-ac) W. L. Gibson sur, 2½ mi se Bogota, lcn. A. N. Gibbons et al's B. A. Rust 1 (1915-ac), C. C. Welborn sur, s edge of Avery, dk.

ROBERTSON COUNTY — J. C. Kilgore, Tr., et al's Ely 1 (616¾-ac), Antonio Manchacha sur, (shallow test), sd 230 ft. H. L. Patton Co.'s W. H. & H. A. Ely 1 (616¾-ac), Antonio Manchacha sur, 5 mi se of Hearne, elev 392 ft, top Carrizo 661 ft, sd 3840 ft.

RUSK COUNTY—Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi ne Pirtle, elev 370 ft, Pecan chalk 2418-2793 ft, Austin chalk 3352-3512 ft, td 4750 ft, pb to 4710 ft, dry and abd. Stewart & Egan's Hall Wood 1 (847-ac), blk 12, Jose I. Sanchez sur, elev 310 ft, Pecan chalk 3030-3740 ft, top Austin chalk 4215 ft, sd 4404 ft. J. W. Shipman et al's City Nat'l Bank 1 (125-ac), J. J. Y'Barbo sur, 4 mi ne of Henderson, dk.

SMITH COUNTY — J. C. Bowers et al's Malcom Landers (W. W. Holland) 1 (215-ac), S. A. & M. C. Ry. sur A-968,, 3 mi ne of Jamestown, elev 386 ft, Pecan chalk 3000-3200 ft, dry and abd 3662 ft.

TITUS COUNTY—Steve J. Rotondi et al's O. C. Lillianstern 1 (40-ac), W. H. Crawford sur, 5 mi se Talco, elev 301 ft, dk.

UPSHUR COUNTY—M. T. Flanagan & Vardeman's W. D. Barber 1 (78-ac), Del Toris sur, 5 mi nw of Glenwood, lcn. Tip DeArman's D. Averett 1 (69½-ac), J. B. Davenport sur, 4 mi s Gilmer, dr 3230 ft. R. B. Hollandsworth Drlg. Co.'s Little Sandy Hunting & Fishing Club 1, lcn. Otto L. Morris et al's W. A. Reeves 1, I. Moody sur, elev 470 ft, mim.

WOOD COUNTY—Atlatl Royalty Corp. (E. DeGolyer's) J. B. Goldsmith 1 (693.3-ac), W. W. Lanier sur A-358, 3 mi nw of Quitman, elev 453 ft, Pecan chalk 2450-2636 ft, Austin chalk 3807-3973, top Woodbine 4448 ft, top Red Beds 4680 ft, fsh 5040 ft. Roger Wolfe et al's C. M. Dickey 1 (100-ac), E. Allen sur, 5 mi e by s of Winnsboro, sp and sd.

HARRISON COUNTY — Adams & Bird's Washburn 1, F. Jordan sur, dk. Itex Oil Co.'s T. J. Taylor 1, W. H. Payne sur, fsg, td 3985 ft. Roy C. Swails et al's Bonnie Pitts 1, sec G. W. Martin sur, dr 1850 ft. Hanover, Bergendall et al's Buchanan 1, W. M. McIlvain sur, installing new rig, td 3682 ft. Hammonds & Williams' W. T. Cocke 1, J. N. Sorrell sur, sd 2500 ft.

SHELBY COUNTY—I. M. Bradley et al's J. J. Ashberry 2, J. M. Mitchell sur, sd 3590 ft. J. W. Reynolds et al's Polley Est. 1, E. F. Christenberry sur, rur. Tarbud Oil Co.'s Pickering 1, W. D. Woodfin sur, dr 2365 ft; Pickering 2, Jas. Forsyth sur, dr 2540 ft.

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WEST TEXAS

ANDREWS COUNTY — Fuhrman Pet. Corp.'s W. T. Ford 2, se¼ sec 16, blk A-43, PSL sur, elev 3187 ft, top anhydrite 1703 ft, top salt 1747 ft, top lime (brown) 2830 ft fsh 4047 ft. Crafton Oil Co. (Amon G. Carter's) J. W. Richards-McWhorter 1, c ne¼ sec 13, blk A-30, PSL sur, elev 3441 ft, top anhydrite 1675 ft, cem 8¼-in cas and rust, dr 1900 ft. Honolulu Oil Corp.-Llano Oil Co.'s J. E. Parker 1-B, nec w½ ne¼ sec 11, blk A-43, PSL sur, elev 3218 ft, top salt 1978 ft, top Yates sand 3125 ft, top brown lime 4200 ft, top white lime 4294 ft, pb fr sulphur w at 4792-4804 ft, to 4760 ft for shot. Gulf's J. S. Kelly 1-A, c se¼ sec 2, blk A-38, PSL sur, elev 3422 ft, dr 1475 ft. Humble's J. S. Means 4, c se ne sec 12, blk A-35, PSL sur, elev 3157 ft, rig; R. M. Means 5, c sw sw sec 4, blk C-45, PSL sur, dk. Republic Prod. Co.'s W. H. Boner 1, se¼ sec 25, blk A-43, PSL sur, elev 3199 ft, top anhydrite 1719 ft, top brown lime 2880 ft, making 5,000,000 ft gas, dr 4300 ft. Shell Pet. Corp.'s J. S. Means 1, c sw se sec 2, blk A-35, PSL sur, rig. Lou Stogner et al's C. C. George-TP 1, c se¼ se¼ sec 25, blk A-22, PSL sur, sp and sd. J. W. Tripplehorn & Bros.' C. E. Ogden-Humble 1, sec sw¼ sec 6, blk A-46, PSL sur, elev 3211 ft, dr 3660 ft. E. M. Wahlenmaier-York & Harper's O. G. Bitler-J. F. Getty 1, c ne¼ sec 10, blk A-32, PSL sur, elev 3307 ft, top anhydrite 1880 ft, top salt 1975 ft, dry and abd in dry lime 4807 ft. Wahlenmaier Pet. Corp.'s R. A. Cox-Humble 1, c nw¼ sec 8, blk A-33, PSL sur, fsh parted cas 156 ft.

BORDEN COUNTY—C. Ed. Hyde et al's G. M. Dodge 1, nwc se nw sec 28, blk 33, T&P Ry. sur, T-4-N, lcn abd.

BREWSTER COUNTY—Floyd C. Dodson et al's Texas American Synd. 1, c ne ne sec 66, blk 10, H&GN Ry. sur, deep test, dr by junk, td 963 ft. C. M. "Dad" Joiner et al's W. J. McIntyre 1, se¼ sec 31, blk 352, W. J. Mitchell sur, hole filled with mud, td 2150 ft. K. C. King & C. R. Franklin's A. S. Gage 1, nw¼ sec 138, blk B-22, GH&SA sur, sd 1180 ft. S. G. Smith et al's Mrs. Decie 1, nwc se¼ sec 7, blk 1, G. T. Ry. sur, dr 1240 ft. G. H. Storey et al's Jim P. Wilson 1, c se nw sec 3, blk 212, T&St.L. Ry. sur, sd 1815 ft.

COKE COUNTY—C. D. Hagerty et al's S. W. Gaston 1, Jos. Young sur No. 11, elev 2022 ft, re-set cas 3125 ft.

CONCHO COUNTY — Maverick Oil Co.'s Jim Rice 1, sec 18, H&TC Ry. sur, lcn.

CRANE COUNTY — American-Liberty Oil Co. et al's J. B. Tubb-Humble 1, swc sec 11, blk B-27, PSL sur, elev 2536 ft, top Yates sand 1470 ft, top lime 2400 ft, fsh 3703 ft. Dobbs Oil Co.'s Jax Cowden 1 (1120-ac), sec n½ sec 38, blk 1, H&TC sur, elev 2330 ft, sd 205 ft. B. H. Fleet et al's R. S. Pershing-The Texas Co. 1, lcn. Gulf's M. F. Henderson 1, c se¼ sec 3, blk B-23, PSL sur, elev 2778 ft, top anhydrite 1100 ft, top Deleware lime 2219 ft, big lime pay 3520-23 ft, made 805 bbls oil in 10½ hrs, and 2,500,000 ft gas, completed; M. B. McKnight 1, c sw sw sec 9, blk B-21, PSL sur, elev 2679 ft, top salt 615 ft, top lime 2530 ft, show black oil 2895-2902 ft, td 3713 ft, pb to 3649 ft and shot 230 qts. nitro at 3540-3602 ft and with 420 qts nitro at 3170-3415 ft, co with 3000 ft oih; W. N. Waddell et al 1, c nw nw sec 4, blk B-27, PSL sur, Ordovician test, elev 2554 ft, top salt 510 ft, dr 4810 ft. W. L. Holloway et al's J. B. Mayberry-The Texas Co. 1, near c sec 17, blk 35, H&TC Ry. sur, sd 570 ft. Magnolia's W. P. Edwards 1, sec w½ se¼ sec 2, blk B-23, PSL sur, elev 2778 ft, top salt 1292 ft, top anhydrite 1188 ft, flowing 20 bbls daily, dr 3480 ft.

CROCKETT COUNTY—E. C. Leslie & Hiller's J. S. Todd 1, sec ne ne sec 26, blk "WX", GC&SF sur, fsh 820 ft. Chas. & Grant Adkins et al's Shannon-Atlantic 1, swc n½ sw¼ sec 27, blk "WX", GC&SF Ry. sur, mim.

CULBERSON COUNTY — Anderson-Prichard Prod. Corp.'s H. A. Borders 1, nw¼ sec 34, blk 249, GB&CNG Ry. sur, elev 4565 ft, dr 1715 ft. Miller et al's fee 1, sec 21, blk 97, PSL sur, sd 2107 ft.

JEFF DAVIS COUNTY — C. M. "Dad" Joiner et al's Jones-Coffield 1, ne¼ sec 8, blk 3, H&TC sur, fsh 1514 ft.

DAWSON COUNTY — O. F. Dickenson, Tr., et al's C. H. Doak 1, e part sec 43, blk C-41, PSL sur, sd 265 ft.

ECTOR COUNTY — Empire Gas & Fuel Co.'s H. E. Cummins 1, sec se¼ sec 10, blk 44, T&P Ry sur, T-1-N, elev 3234 ft, top anhydrite 1397 ft, top salt 1420 ft, top Yates sand 2660 ft, top lime 3668 ft, 4,000,000 ft gas at 4141-46 ft, dr 4180 ft. Continental Oil Co.'s L. E. Wight 1, nec sw¼ sec 21, blk 43, T&P sur, T-1-S, cem cas 145 ft. A. R. Eppenauer et al's L. E. Wight-Conoco 1, nwc ne¼ sec 22, blk 43, T&P Ry. sur, T-1-S, sd for repairs, td 1870 ft. Landreth Prod. Corp. et al's B. H. Blakeney 1-B, swc sec 22, blk 44, T&P Ry. sur, T-1-N, elev 3172 ft, top brown lime 3830 ft, pb fr sulphur w at 4300 ft to treat oil pay at 4220-60 ft with hot acid; Clarence Scharbauer 1-A, sec nw¼ sec 13, blk "A", PSL sur, elev 3148 ft, top salt 1500 ft, top lime 3685 ft, pb fr sulphur w at 4360-80 ft to 4200 ft to shoot oil pay at 4120-70 ft with nitro. Phillips Pet. Co.-Pure's E. F. Cowden 1, swc nw¼ sec 14, blk 44, T&P Ry. sur T-1-S, elev 3100 ft, top anhydrite 1430 ft, top salt 1470 ft, top Yates 2780 ft, top lime 3660 ft, made 9,068,000 ft gas at 3720-33 ft, dr 3915 ft; Cowden 2, swc sec 23, blk 44, elev 3103 ft, cem 7-in cas 3798 ft. Sun Oil Co.-Atlantic's O. B. Holt 1, swc sec 5, blk 43, T&P sur, T-1-N, elev 3108 ft, salt 1618-2696 ft, top Yates 2845 ft, top lime 3901 ft, sg 4057-60 ft, cem 7-in cas 4047 ft and sd to rust.

EL PASO COUNTY—Tri-State Oil Co.'s Chas. & L. M. Kinkel 1, nec sec 237, S. F. No. 7232, run cas 750 ft. A. M. Blume et al's F. W. Cock 1, ne¼ sec 321, S. F. No. 8134, lcn.

FISHER COUNTY—E. M. Campbell et al's D. F. Maberry 1, J. F. Newman sur, lcn. Tide Water's-Merry Bros. & Perini, Inc.'s W. E. Hittson 1, ne¼ sec 177, blk 2, H&TC sur, dr 3100 ft.

GARZA COUNTY—M. L. Richards et al's J. R. Sullivan 1, swc sec 3, S. E. Harper sur, elev 2534 ft, top salt 920 ft, top lime 2317 ft, sd 2940 ft.

GLASSCOCK COUNTY—John I. Moore, Loffland Bros. et al's L. S. McDowell 1, c se ne sec 22, blk 34, T&P Ry. sur, T-2-S, elev 2534 ft, top lime 2137 ft, top Crinoidal lime 9471 ft, showing o&g, co to dd fr 9946 ft.

TOM GREEN COUNTY — Twin Oil Co. (McKee Bros.) W. E. Green 1, Levi P. Moore sur No. 169½, sd 335 ft.

HOWARD COUNTY — John I. Moore, Hugh G. White et al's D. H. Snyder 1, swc sec 28, blk 30, T-1-S, T&P sur, elev 2302 ft, so&g in lime 2637-48 ft, dr 2655 ft.

JONES COUNTY—R. L. Crawford et al's J. J. Waters 1, sec 1, T&NO Ry. sur, blk 2, sp and sd. R. B. Farris & Leland Fikes et al's J. W. Jennings 1, c n½ e½ se¼ sec 207, Orphan Asylum Land-BBB&C Ry. sur, so&w 1927-28 ft, dr 1960 ft. Hal P. Hughes et al's J. D. Farrow 1, sec 6, T&P Ry. sur, blk 15, dr 300 ft.

LOVING COUNTY — Mason Oil Co.'s M. Kyle 1, c nw se sec 22, blk 55, T&P Ry. sur, Tsp. 1, elev 3001 ft, top salt 1585 ft, sd 2640 ft. Porter Rankin et al's W. D. Johnson 1, nw¼ sec 12, blk 57, T&P sur, Tsp. 1, sd 2170 ft.

MITCHELL COUNTY—Texas' I. W. Terry-Chalk 1, sec 62, blk 29, W&NW sur, elev 2347 ft, dr 2220 ft.

LYNN COUNTY—E. T. Hart & Wanete Oil Co.'s C. O. Edward's 1-A, se¼ sec 29, blk 1, L&SV Ry. sur, elev 3112 ft, dr 2500 ft.

PECOS COUNTY—Gulf's White-Baker 7, nec sec 15, blk "Z", T. C. Ry. sur, lcn. C. W. Richards et al's W. Courtney-Pryor 4, c nw nw sec 78, blk "OW", T. M. Ry. sur, sd 362 ft. Trans-Texas Oil Co.'s C. M. Caldwell 1, sec sec 27, T&P Ry. sur, blk 50, Tsp. 9, co 2412 ft.

REAGAN COUNTY—Culbertson & Irwin's R. E. Wingo 1, c sw sec 1, blk "H", L&SV Ry. sur, lcn. Skelly et al's University-Grayson 1-D, c sw nw sec 33, blk 8, elev 2891 ft, top Cisco 9174 ft, top Simpson 9400 ft, tested salt water in Ellenberger lime 9967 ft, pb to 3100 ft and sd.

REEVES COUNTY—R. W. Clark et al's Radford 1, sec 39, blk 56, PSL sur, elev 3169 ft, set cas 502 ft. Herbert Oil Co.'s E. M. Williams 1, sec 17, blk 6, H&GN Ry. sur, elev 2536 ft, rust, td 3268 ft. Kenneth Slack & L. M. White's Francis Reeves 1, c se nw sec 20, blk 56, PSL sur, elev 3220 ft, dr 845 ft.

RUNNELS COUNTY—Drew Beams et al's W. F. James 1, D. Diaz & N. Travis sur, dry and abd 2476 ft. Grover Hart, J. D. B. Baker & J. S. Dennis' G. W. Ash 1, nec w½ sec 123, E. T. Ry. sur, sp and sd. Geo. B McCamey & Bud Wolverton's Willingham 1 Wm. Wolfgang sur, 1½ mi se Ballinger, elev 1673 ft, dr 2235 ft,

SCHLEICHER COUNTY—J. M. Cooper et al's Bert Page 1, nec c nw¼ sec 40, blk "L", GH&SA sur, Ordovician test, elev 2270 ft, sg dr 6230 ft. W. C. Proctor, J. D. Wesner et al's Judkins-Spencer (Pure) 1-A, c sw¼ sec 4, GC&SF Ry. sur, blk "V-28", or Hooper-Wade sur, blk "A", set 12½ in csg 680 ft.

SCURRY COUNTY—E. L. Goos et al's J. E. Murphy 1, nec w½ ne ¼, sec 114, blk 97, H&TC sur, fsh with 400 ft oih, td 1835 ft. Coffield & Guthrie, Inc.'s W. A. Wade 1, nwc sec 115, blk 97, H&TC sur, lcn. Magnolia's J. Wright Mooar 1, ne¼ sec 342, blk 97, H&TC sur, dr 2870 ft.

STONEWALL COUNTY — Barnsdall's J. Young 1, nec blk 26, Austin-Williams sur No. 348, dry and abd 3083 ft.

SUTTON COUNTY—Paul C. Teas et al's G. S. Allison 1, swc sec 49, blk "A", GW&TP Ry. sur, rig.

TERRELL COUNTY—F. C. Bates & J. H. Felps' J. H. Felps 1, nw¼ sec 5, G. W. Turley sur, blk A-4, sd 5635 ft.

TAYLOR COUNTY—H. Grissman et al's Abilene fee 1, near c se¼ sec 66, BAL sur, sd 1760 ft. Nat Anderson et al's J. C. High 1, swc e½ ne¼ sec 8, L.A.L. sur, lcn. Hickock Prod. & Dev. Co.'s C. R. Tittle 1, nwc sec 37, blk 19, T&P Ry. sur, lcn. Skaggs & Brewer's McClure-Young 1, nec s½ sw¼ sec 8, LAL sur, sd 1745 ft.

UPTON COUNTY—Humble's L. W. Pollok-Gulf 1, c nw¼ sec 4, blk "M", EL&RR sur, Ordovician lime test, top salt 1670 ft, top Yates sand 2560 ft, dr lime and shale 7700 ft. J. G. McKenzie et al's W. H. & L. M. Taylor 1, sec ne se sec 22, blk B-2, GC&SF Ry. sur, mim.

WARD COUNTY—Magnolia's Geo. Sealy 1-43, nwc sw¼ sec 43, blk "F", elev 2656 ft, top anhydrite 1036 ft, top lime 2665 ft hfw (sulphur) 2880-95 ft, dr 3035 ft. Tex-Mex Pet. Corp. & E. M. Wahlenmaier's R. O. Potts-Humble 1, sec 28, blk B-29, PSL sur, dr 700 ft.

WINKLER COUNTY—Barnsdall Oil Co.'s Brown-Altman 1-A, nwc se¼ sec 6, blk B-5, PSL sur, elev 2844 ft, pb fr sul w at 3215-18 ft to 3195 ft, testing; Brown-Altman 2-B, sp. Emperor Oil Co.'s S. M. Halley 1, sec n½ se¼ sec 12, blk B-12, PSL sur, elev 2764 ft, top anhydrite 915 ft, dr 2510 ft. Gulf's Keystone Cattle Co. 1, nec nw¼ sec 10, blk B-3, PSL sur, elev 2942 ft, top anhydrite 810 ft, top salt 970 ft, top brown lime 2090 ft, top O'Brien lime 2240 ft, dolomite lime pay 3480-3500 ft, making 90 bbls oil, 16 bbls w and 8,000,000 ft gas, to treat with acid; Keystone 2, nwc sec 17, blk B-2, elev 2941 ft, top anhydrite 892 ft, top brown lime 2240 ft, top O'Brien lime 2440 ft, tested mud and w on dst 3672-3702 ft, sd to cem 7-in at 3100 ft and rust; Keystone 3, nwc ne¼ sec 11, blk B-3, elev 2939 ft, top anhydrite 830 ft, repairing parted cas, td 3219 ft; Keystone 4, nec sec 20, blk B-3, elev 2937 ft, top anhydrite 864 ft, cem 7-in cas 2600 ft, dr 3130 ft; Keystone 5, nwc sw¼ sec 6, blk B-2, elev 2952 ft, top anhydrite 803 ft, top brown lime 2090 ft, top O'Brien lime 2240 ft, cem 7-in cas 3150 ft, td 3250 ft; Keystone 6, nwc ne¼ sec 16, blk B-2, elev 2950 ft, top anhydrite 920 ft, repairing parter cas, td 3490 ft; Keystone 7, nwc sw¼ sec 14, blk B-2, rur; Keystone 8, swc sec 13, blk B-2, sp; Keystone 9, swc sec 18, blk B-2,

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elev 2946 ft, fsh 440 ft. K. D. Oil Co.'s Pink Mitchell 1, nwc s½ ne¼ sec 23, blk B-10, PSL sur, rog. Sid Richardson et al's J. B. Walton-Pure 1, nwc sw sw sec 1, blk B-3, PSL sur, elev 2947 ft, top anhydrite 1131 ft, top lime 2115 ft, cem 5 3/16-in csg 3245 ft, run tubing to test 3524 ft. Siosi Oil Co.'s J. C. Lovett 1, nec sec 36, blk B-26, PSL sur, making gas, co 2727 ft. Skelly's J. M. Halley 2, ne¼ sec 25, blk B-11, PSL sur, elev 2726 ft, junked gasser, td 3090 ft; J. M. Halley 3, near c of s line ne¼ sec 25, blk B-11, PSL sur, top anhydrite 966 ft, cem cas 1286 ft. Sun Oil Co.'s S. M. Halley 1, sec n½ sec 24, blk B-12, PSL sur, elev 2736 ft, top lime 2485 ft, pb fr hfw (sulphur) 3170-73 ft to 2732 ft, given small shot and sd to pump; Halley 2, sec sec 24, mim. J. M. Weaver and Hoffman-Page Co.'s Tobe Morton-Humble 1, sec n½ sec 11, blk B-12, PSL sur, elev 2767 ft, base salt 2471 ft, top lime 2505 ft, dr 2635 ft.

YOAKUM COUNTY—Honolulu Oil Corp. & C J. "Red" Davidson's L. P. Bennett 1, c ne ne sec 678, blk "D", John H. Gibson sur, elev 3557 ft, top salt 2530 ft, dr 2900 ft.

SOUTH TEXAS

ATASCOSA COUNTY—R. McIntyre's H. A. Billinck 1, J. B. Woodleff sur No. 246, 7½ mi e Coughran, sp and sd.

BANDERA COUNTY — Palm Winn Oil Co.'s R. B. Watson 1, sec 71, 2 mi n Medina City, ur 1745 ft. Plateau Oil Co.'s R. G. Garrison 1, sec 506, GC&SF sur, 8 mi sw of Medina City, td 3409 ft, washing down 3000 ft.

BASTROP COUNTY — Batts & Jarmon's A. Paris 1, J. Maximillian sur, N Dale area, sd 2115 ft. Marts & Beavens' Leatherwood 1, W. McLanglin sur, dr 2810 ft. Nelson Puett's Carrol 5, A. Mays sur, Carrol District, td 2385 ft, pb 2314 ft, now sd. F. Wilson's M. C. Callaham 1, Mays sur, ru. Wheelock & Collins' K. C. Fowler 1, 150 ft sel and swl, 59 ac tr, Jose Antonio, Navarro sur, dr 750 ft.

BEE COUNTY — G. M. Church's J. C. Woods 1, J. Ryan sur, 3½ mi s Beeville, dr 1750 ft. John Deering et al's Pullin 1, W. W. Grant sur, ¾ mi ne Rutledge pool, dry and abd 3620 ft. L. A. Douglas' Imogene Hall, T. J. Butler sur, ½ mi ne Dirks pool, set 7 in csg 3917 ft, wccs. Fox & Heflin's A. M. Holzmark 1, Richard Jones sur, Foley area, dr 2275 ft. Humble O&R Co.'s J. C. Woods 1, Wm. Burk sur, 12 mi se Beeville, dry and abd 5128 ft. Francis P. Hynes et al's Theo. M. Plummer 1-A, Theo. M. Plummer sub. sec 33, Chessman sur, 4 mi sw Caesar field, re-dr 1418 ft. Littlejohn et al's Borroum 1, Wm. Gill sur, ½ mi nw Rutledge pool, sd 125 ft. D. V. Smith's B. B. Atkins 1, M. Woods sur, ru. United Prod. Corp.'s G. A. Ray 51, G. A. Kerr sur, sw of N. Pettus field, 3750 ft. Worth Oil Co.'s Rutledge 1-B, A. Hadley sur, Patent 34, 1/3 mi sw Rutledge pool, prep to sp. Thos. J. Wrightman's A. J. Kimball 1, S. Winship sur, Grayburg area, td 3820 ft, coring 3525 ft in sdtr hole.

BEXAR COUNTY— — American Gas Co.'s Oliver 5, M. F. Rodriquez sur, Gas Ridge, sd 2902 ft. James B. Cunningham et al's L. F. Ridder 1, Baerrera sur, ab 50, 2 mi e McDonna, prep to dd fr 518 ft. Fay T. Chew et al's Jones 5, sec 9, Jacinto Pena sur, 1½ mi e Adkins, dr 160 ft. M. A. Fredrich's Fee 1, F. Recardo sur, 12 mi sw San Antonio, dry and abd 1115 ft. C. J. LeCompte's A. Herbst 1, M. Leal sur, 4 mi s San Antonio, dr 325 ft; Mayfield Park 1, sd 362 ft. McPhee & Briggs' Florence Lamb 1, M. de Luna sur No. 4, 22 mi s San Antonio, td 2147 ft, set whipstock 1400 ft. Magna & Morgan's J. Kirkwood 1, Desaque sur, 9 mi sw San Antonio, lcn. Mid-Tex Prod. Co.'s Walker 1, S. N. Dobie sur No. 79, 10 mi n San Antonio, dr 465 ft, top Edwards lime 85 ft. J. H. Parker's M. McCloskey 1, F. A. Desaque sur, 5 mi nw Somerset, sd 525 ft. Carrol C. Raborn's A. B. Stephens 1, P. N. Hays sur, 10 mi e San Antonio, sd 410 ft; Claud McCauley 1, Wm. Harris sur No. 52, 4 mi s San Antonio, dr 925 ft; Lee Upson, Palfrey 1, Almaniz League, 5 mi se San Antonio, lcn.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morresey 1, T. H. Webb sur No. 91, 2½ mi e Blanco City, dr 360 ft.

BROOKS COUNTY—United Prod. Co.'s K. J. Hocker 1, Palo Blanco de Maguelles Gr, Palo Blanco area, dr 2350 ft.

CALDWELL COUNTY—Adams & Lyles' Moore 1-B, 400 ft nel, 150 ft nwl, 305.5-ac tr, Jasper Gilbert sur, dr 2000 ft. Ballard & Whitting's A. G. Bridges 1, S. Seal sur, dr 1725 ft. R. S. Bolling et al's C. F. Robertson 1, John A. Neill sur, dr 2050 ft. Exploration Dev. Co.'s W. T. Mooney 1, S. Seal sur, swabbing 2190 ft. O. W. Killam's W. D. Moore 1, J. Burleson sur, 1½ mi s Lytton field, cored saturated Taylor marl 1812-30 ft, making dst. R. Y. Walker's Walker Bros. 2, S. Seal sur, sp and sd.

CALHOUN COUNTY—Continental's Am. National Realty Company (Moody) 2, sec 6, blk C. P. Garcia sur, 9 mi se Seadrift, trying to establish circulation 7134 ft. Crown Central's Wilson 1, Esparza sur, Port Lavaca, lcn. Halliburton's D. Burton 3, M. Sanchez sur, Port Lavaca, dr 2500 ft; D. Burton 4, M. Sanchez sur, Port Lavaca, lcn. Mart Oil Co.'s Brundett 1, sec 8, Wm. Little sur, Matagorda Island, dr 750 ft. Steinberger's W. A. Shofner 2, Port Lavaca, M. Sanchez sur, td 6244 ft, set 7-in csg 6216 ft, wocs. Texas Co.'s Hollman 1, 1450 ft nl, 1400 ft el, 2266 ac tr, Powell & Shupe sur, Port Lavaca, lcn; W. Shofner 1, M. Sanchez, Port Lavaca, td 6262 ft, pb and whipstocking 5550 ft.

CAMERON COUNTY — J. F. Anderson's Browne 1, blk 397, 3 mi ne Rio Hondo, ru. King Wood's Champion 1, 311 ac tr, 7 mi nw Brownsville, dk.

DE WITT COUNTY—R. Bourke's Steinman 1, Uriah Blue sur, 6 mi s Yoakum, set sur csg, re-dr. J. B. Crossman's Kleberg 1, J. J. Tumlinson sur, 2 mi nw Cuero, sd 80 ft.

DIMMIT COUNTY — Diamond Half Oil Co.'s A. Eardley Est. 1, R. G. Morgandale sur No. 6, ab 1322, 5½ mi nw Carrizo Springs, lcn. Joe Lundin et al's Nueces Lands Irrigation Co. 1, lot 16, blk 7, Bermuda Land sub, 12 mi ne Carrizo Springs, lcn.

DUVAL COUNTY—Benedum & Tree's G. B. Parr 1, San Andres gr, 4 mi se Sweden, dr 4450 ft. Bridwell Oil Co.'s M. G. Hubbard 1, 330 ft nl and wl, sec 71, 1 mi s Loma Novio, dr 2450 ft. Byrd Oil Corp.'s Wright et al 8, sec 101, Loma Novio, ru. Continental's Clara D. Sevier 1-B, 660 ft sl and el sec 54, Santa Rosalia gr, 3½ mi nw Driscoll field, prep to sp. J. H. Chandler's Rita S. De Pena 1, 3630 ft swl, 1394 ft nwl of 491 ac tr, sh 4, Mesquite gr, dk. Harvey & Henderson's D. Ruiz 1, sur 125, 2 mi e Sarnosa field, dr 2175 ft. Humble's T. D. Smith 1, sec 382, ½ mi w Seven Sisters, sand 2483-93 ft, complete 34 BPH, ½ ch. Intrepid Oil Co.'s Parr Ranch sec 115, sd 5305 ft for orders. Lipscomb & Daubert's M. C. Hubbard 1, sec 75, sw Loma Novio field, sp. Stewart & Parr et al's Bishop Cattle Co. 1, nw sec 74, 2 mi nw Hoffman field, dry and abd 3009 ft. T. M. G. Drlg. Co.'s Davidson 1, sec 90, 4 mi e and n Loma Novio, testing sand 2929-32 ft.

FRIO COUNTY—Amerada's W. H. Smith 1, J. B. Mason sur No. 322, 4½ mi sw Pearsall field, set 7 in csg 6085 ft, drlg ahead; Kothman 1, D. L. Crouch sur No. 90/9, ½ mi s Pearsall field, testing csg for leaks, sand 3957-61 ft. W. D. Bacon et al's J. F. Burns 1, T. H. Clifton sur, sw Bigfoot, lcn. Midland Oil Co.'s S. A. Joint Stock Land Bank, BS&F sur No. 2, 1 mi s Pearsall town, dr 3314 ft. W. T. Shoemaker et al's M. Roach Est. 1, C. Wentzel No. 139, Bigfoot Prospect, td 4005 ft, pb 2385 ft, now sd.

GOLIAD COUNTY—Brown & Wheeler's Jennie R. Kaufman 1, P. Trevino sur, Hords Creek prospect, dr 2100 ft. Diamond Half Oil Co.'s O. R. Mudd 1, B&B sur, N. Pettus, sand 3669-81 ft, completing. Keystone Royalties Co.'s C. B. Wood 1, John Shearn sur, 3 mi e Berclair, fsh 5961 ft.

GONZALES COUNTY—Midland Oil Co.'s & Sorrell's Dan Billings 1, T. Harmon sur, 4 mi sw Smiley, sd for orders 3507 ft. Resource Oil Co.'s Otto Lanbeck 1, J. M. Salinas sur, 3 mi w Gonzales, sp.

GUADALUPE COUNTY—J. E. Clark's W. B. Lay 1, J. K. Davis sur, cored saturated chalk 2372-81 ft, testing. Gede et al's Hicks 1, E. de los Santos Coy, dr 610 ft. A. D. Locke's Mrs. N. S. Lowman, C. Campbell League, 1½ mi nw Staples, sd 1810 ft. Minerals Corp. of Texas' Allen Phillips 1, Cortines sur, 10 mi sw Seguin, sd 868 ft. W. A. Scrutchin's A. H. Smith 1, J. B. Cowen sur, W. Staples, dr 765 ft. Suttle et al's Baenzinger 1, wo. A. O. Mansola sur, temp abd, 2155 ft. W. J. Walton's Zoboroski 2, J. D. Clements sur, 6 mi se Seguin, dr 2550 ft.

HIDALGO COUNTY — Bluff Pet. Co.'s Knowles 1, sh 14, por 49, 3 mi sw Mission, sd 5550 ft. Cortez Oil Co.'s C. E. Smith 1-C, Tr. 3-B, por 41, se side Samfordyce, sand 2942-44 ft, dst 9 thribbles sw 8 min, pb 2700 ft, wocs. Deering & Kayser's John C. Engleman 1, lot 3, blk 70, Mastena gr, 8 mi ne Edinburg, td 7508 ft, washing 3500 ft. D. M. C. Oil Co.'s Daskam 1, blk 34, por 45, 4½ mi ne Samfordyce field, co 4414 ft. Ed East's L. R. Scarborough 1, 1150 ft el, 150 ft sl, blk 14, E. Retama sub, San Salvador del Tule gr, ru. Maddox, Turnbull & Irwin's John H. Shary 1, lot 21, Shary sub, por 58-59-60, 4 mi se Mission, dr 4418 ft. Mundy & Sons' Guerra 1, tr 12, por 41, 4000 ft n Samfordyce field, Union Sulphur Co.'s ARGL&I Co. 1, tr 2297, lot 59, N Capisallo district, Llano Grande gr, 1¼ mi ne Mercedes field, td 6431 ft, dr 6371 ft sdtr hole; ARGL&I Co. No. 2, lot 2182, blk 86, N. Capisallo district, Llano Grande gr, offset to discovery, td 8044 ft, cutting out ds 3350 ft in sdtr hole; ARGL&I Co. 4, lot 1, blk 99, N. Capisallo district, Llano Grande gr, 1½ mi sw discovery, dr 2750 ft.

JACKSON COUNTY — Phillips' Nina H.

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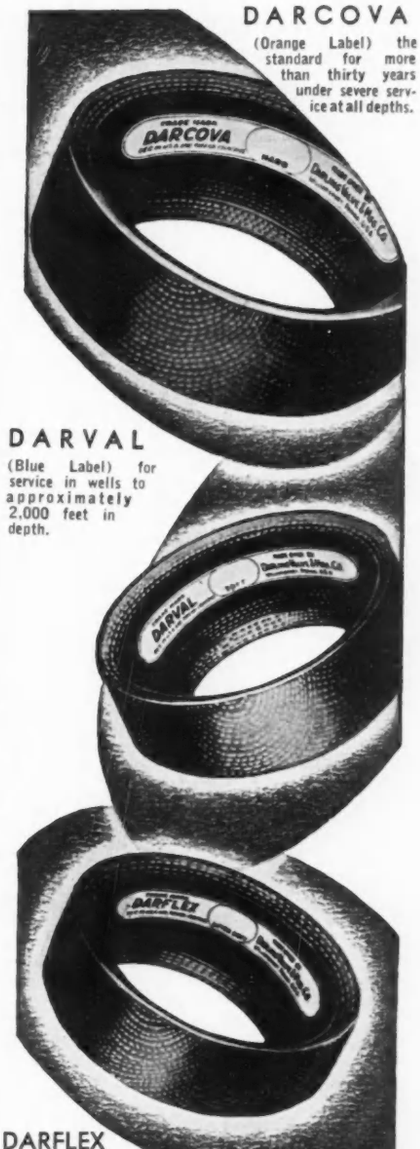

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JIM HOGG COUNTY—Miller et al's Yeager 1, blk 6, sec 20, fsh 3530 ft. Phillips et al's Allen 1, blk 293, Pippin sub, Randado gr, set 42 ft 10 in csg, now sd.

JIM WELLS COUNTY—A. M. Hagen et al's Robt. Adams 1, State sur No. 10, 2 mi sw Alford, dr 725 ft. O. W. Killam's W. D. Wade 7, lot 1, blk 6, Bode sub, S. A. Aqua Dulce sur, Sandia, dr 4700 ft. Magnolia's A. A. Seeligson 6, V. Canale sur, No. 218, Premont, dr 6948 ft, brittle shale.

KARNES COUNTY—Ed Falvey et al's W. Holmes 1, 150 ft out of s corner of 100 ac tr, C. Martinez sur, sw of Green, lcn. W. C. Mc Bride, Inc.'s N. B. Boultinghouse 1, J. S. Menefee sur, 10½ mi e Green, coring 4457 ft. Mart Pet. Corp.'s Cochran 1, 150 ft sl, 360 ft el of McConnell League, sp and sd. R. L. Wheelock et al's Mrs. Ida Herder 1, 330 ft out of ne cor of 215 ac tr, James Johnson sur, 1 mi ne Burnell, ru.

KENDALL COUNTY — J. E. Freeman's Gerfer's 1, Mark Hodgson sur No. 796, sd 102 ft. Southwestern Dev. Synd. Ltd.'s Willie Werner 1, Torrey sur No. 781, Sisterdale area, dr 635 ft.

KERR COUNTY—Jeff Love & Eastland Oil Co.'s Jeff Love 5-E, J. Martinez sur, sec 1594, ½ mi se original Love Ranch test, sd 5625 ft for csg.

KLEBERG COUNTY—Harry Clark's W. S. Rogers 1, lot 1, blk 36, Kleberg sub, sd 750 ft. J. K. Culberson & Fidelity Exploration Synd.'s Kivlin 1, lot 4, blk 39, KT&I sur, lcn. Fidelity Exploration Co. Synd.'s Paul O'Henry 1, lot 2, sec 49, KT&I sur, 2400 ft. Parr & Ponder's Sam Michalk et al 1, lot 5, blk 37, KT&I sur, dr 1325 ft.

LA SALLE COUNTY—S. Killingsworth 1, L. Yeager 1, lot 10, blk 5, sur 94, td 2001 ft, reinstate, run csg to td, will perf in upper levels.

LEE COUNTY—McNeill Pet. Co.'s G. B. Batey 1, Wm. Nichols sur, 14 mi nw Lexington, top Edwards lime 3315 ft, td 3367 ft, showing some oil, no water, set csg, wocs.

LIVE OAK COUNTY — Benco Oil Co.'s Eliz. Mahoney 1, Mark Killely sur, 3 mi w Three Rivers, sd 78 ft, checking titles. Mills Bennett's Walton & Shipp 1, P. Salinas sur No. 11, 3½ mi ne McNeill field, dr 2050 ft. Earl Callaway et al's W. R. Lyne 1, 859.6 swl, 1198.3 ft sel sec 74, M. M. Lyne sur, ab 763, lcn; Moozgemba 1, 330 ft nel and nwl, lot 122, Geo. West sub, blk A, sec 113, S. L. Williams sur, lcn. George West Heirs 1, 8995.5 ft nel, 1231 ft swl sec 255, BS&F sur, ab 113, ru. Henderson Coquat's L. A. Reagan 1, McGloin sur, sd 1240 ft. Gem Oil Co.'s J. E. Lyne 1, sec 134, M. M. Lyne, ab 718, fsh 3465 ft. Houston Oil Co.'s Cartwright 32, M. Trudo sur, Lucas area, sd 6787 ft. Ray S. Nixon et al's Chamberlain Mortgage Co., W. Hill sur, blk 8, sec 174, 3 mi s Fashing, sd 1804 ft. E. W. Turner's J. W. Walker 1, blk 9, C. Simmons subd, dr 475 ft. J. O. Whittington et al's Little 2, M. M. Shipp sur, 1 mi n McNeill field, dr 2350 ft.

MAVERICK COUNTY — Thompson & Streeter's Joseph Wipff 1, 1800 ft sl, 330 ft wl, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, set 220 ft 12½ in csg, wocs.

McMULLEN COUNTY—Bussa Oil Co. of Texas' F. B. Horton 1, James A. Jean sur No. 20, 3 mi sw Tilden, wor 40 ft. Darby Pet. Co.'s E. R. Hagist 1-C, sec 108, Loma Alto, dry and abd, 2802 ft. John C. Gibson's Masur & McDowell 1, sec 19, HT&B Ry. sur, 4 mi sw Tilden, coring 1535 ft; G. C. West 1, lot 1, blk 4, sec 14, HT&B Ry sur No. 1092, 5 mi sw Tilden, sd 465 ft. Howard & Carpenter's Jungman 1, M. Hely sur, dr 1200 ft. Humble O&R Co.'s J. W. Atkinson 1, sec 13, Loma Alto, completing 2184-2202 ft. Loma Oil Co.'s L. Jacob 5-W, W. H. Jacob sur, w Jacob field, dr 1450 ft. C. W. Points et al's Fahler 1, Geo. Pittuck sur, 5 mi w Calliham, td 1004 ft, to perf csg. Texio Oil Co. & Illinois Pet. Co.'s J. W. Atkinson 2, sec 13, making dst 2488-94 ft.

MEDINA COUNTY—Callaham & Roberts R. Taylor 1, A. Brushet sur No. 135, 5 mi sw Hondo, sp and sd. Joe Dupree's Hugo Batot 1, John Bell sur No. 1478, 7 mi sw Hondo, dr 450 ft. Gates & Hill's Odem 1, H. Castro sur No. 174, 5 mi sw Hondo, dr 350 ft. Letro Oil Corp.'s F. B. Forest 1, sec 69, 1½ mi ne Ina field, 1½ mi Adams field, sd 20 ft, rep rig.

NUECES COUNTY—A. F. Holliday's J. Griffith 1, Geo. Frank sur No. 416, Saxet area, completing 5598-5602 ft. Southern Minerals Co.'s Rand Morgan 1, Elliot sur, 2¾ mi sw Saxet field, dry and abd 7195 ft. N. M. Wilson's Bluntzer 1, 330 ft sel and swl of ne 1007 ac, sh 6, Bluntz Lands, Caca Blanca gr, 10 mi n Banquette, ru.

REAL COUNTY—H. J. Heartwell et al's L. J. Haby 2, AB&M sur No. 175, fsh below 3200 ft.

REFUGIO COUNTY—J. & C. Co.'s J. F. Welder 1, J. Farley sur, ab 150, nw Greta field, dr 3600 ft. Hewitt & Daugherty's M. F. Lambert 19, blk 21, Hardwick sur, se Greta field, completing 6260-67 ft. Stanolind's J. F. Welder 4, J. T. McGrew sur, Greta, dr 6090 ft.

SAN PATRICIO COUNTY—Argo Royalty Co. and Willis Storm's Nancy Hobbs 1, c 50 ac tr in Delgado gr, 1 mi s Mathis, lcn for 7000 ft test. Benson & Jones' E. H. Welder 1, sec 38, Welder sur, s of Plymouth, sp. Continental & Atkins & O'Neill's J. F. Welder 3, Juan Hart gr, ½ mi of Angelita field, td 5561 ft, whipstock 5397 ft, dr to 5553 ft sdtr hole, abd. Heep Oil Corp.'s E. H. Welder 2-E, sec 46, Welder sub, Plymouth area, td 5667 ft, pb comp above this level; E. H. Welder 3-E, sec 46, Welder sub, Plymouth area, coring 5648 ft. Magnolia Pet. Co.'s Corpus Christi Bank & Trust Co. 1, H. H. Hunter sur, 9000 ft sw Plymouth field, completing 5595-5600 ft. Plymouth's E. H. Welder 4-C, sec 48, Welder sub, Plymouth pool, comp 5639 ft, flow 10 BPH 3/16 ch; E. H. Welder 5-C, sec 45, Welder sub, Plymouth pool, comp 5639 ft, flow 25 BPH 3/16 ch; E. H. Welder 6-C, sec 48, Welder sub, Plymouth pool, set csg 5638 ft, wocs; E. H. Welder 7-C, sec 45, Welder sub, Plymouth pool, dr 5325 ft; E. H. Welder 8-C, sec 49, Welder sub, Plymouth pool, dr 2775 ft; E. H. Welder 1-D, Portillo sur, se Sinton field, td 6680 ft, pb 5925 ft, completing. Violet Oil Co.'s E. H. Welder 1, sec 47, Welder sub, sw Plymouth field, coring 5600 ft.

STARR COUNTY—Accumulative Royalties Co.'s H. F. Ferry 1, lot 8, blk 15, B&B sub, por 86, e of Rio Grande City, dry and abd 3360 ft. C. R. Borah et al's A. Guerra 1, sh 6, San Jose gr, 2 mi n La Reforma, fsh 3517 ft. John H. Clopton's Kelsey Bass 1, blk 5, sec 10, por 86, e Rio Grande City, dry and abn 4098 ft. H. C. Harter's Sanchez 2, lot 3, sh 72, por 72, 9 mi n Roma, re-cement 503 ft. Hughston Oil Co.'s Wood-Gregg 1-A, por 84, w Rio Grande City, sd 3360 ft for orders. Pedernal Oil Co.'s Hicks & Phelps 1, El Pedernal grant, dr 2250 ft. A. Nix et al's Starr County Cattle Co. 1, blk 57, JL sub, por 89, sw Barbacoas field, td 2715 ft, pb and perf csg 2245-56 ft, now sd.

TRAVIS COUNTY—G. A. Arts' Rolff 1, 450 ft nel, 205 ft nwl of 100 ac tr, Thos. Hancock sur No. 20, ½ mi n Sweden, sp and sd.

VICTORIA COUNTY—Barnsdall's Dr. E. G. Gray 1, 330 ft sw of center of nel, 100 ac tr, SA&MG Ry. sur, ab 382, Placedo area, dr 2500 ft. Crown Central's Schovajsa 1, lot 15, Rupley sur, sw Placedo disc, making dst 4750-72 ft. Eastern Texas Oil Co.'s Henderson & Pickering 1, blk 19, Benevidas sur, Placedo, td 6029 ft, pb and set csg 4806 ft, perf 4740-50 ft, test gas and mud; J. E. Schovajsa 1, lot 14, Rupley sur, 1 mi sw Placedo field, td 4789 ft, pb and perf 4760 ft, heading some oil; E. Williams 1, E. Benevides, ½ mi ne Placedo field, sp. Gillespie & Superior's Brandt 1, lot 11, Rupley sur, Placedo field, td 6255 ft, pb 3860 ft, whipstock and re-dr. Gulf Prod. Co.'s Keeran 7, M. de Leon sur, Keeran, reinstated, former td 5400 ft, now testing 5835 ft. Magnolia's Henderson & Pickering 1, lot 18, E. Benevides sur, Placedo field, td 6394 ft, pb 4750 ft, set 7 in csg 4733 ft, test sw, pull tubing to re-work. Martex Oil Co.'s Mitchell 1, E. Benevides sur, ¾ mi se Placedo disc, gas sand 5293-5313 ft, oil sand 5313-37 ft, cleaning, flowing abt 7 BPH. E. L. Smith Oil Co. et al's M. Lala 1, 300 ft nel and sel lot 13, Rupley sur, Placedo area, set sur csg and sd. Texas Co.'s A. M. McFaddin 9, J. M. Rine sur, McFaddin area, td 6200 ft, pb 4438 ft, sand 4420-34 ft, swabbed sw and oil, pb 2200 ft sand and completing as gasser.

WEBB COUNTY—Allison et al's M. Jones 1, sec 1640, 1 mi sw Moca field, sd 910 ft. Rose B. Barnhardt's de la Garza 1, sec 262, 2 mi n Carolina-Texas field, dr 2491 ft. Mills Bennett Oil Co.'s J. Lopez 3, tr 10-B (100-ac), sec 73, sp. Senator James Neal et al's Laurel 1, 1320 ft sl and el sec 1119, CCSD&RGNG sur, 3 mi e Mirando City field, lcn. Ross Amigos Oil Co.'s Garcia 1, 1250 ft nl, 450 ft el, sec 2168, reinstate, formerly abnd 1891 ft, now dr 1975 ft. Smith et al's M. Jones 1, sec 1640, 1 mi sw Moca field, dr 810 ft. South Texas Oil Co.'s Laurel 1, blk 2, sur 269, Laurel area, sd 1038 ft. W. H. Vernor, Tr.'s Jeffries Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, lcn.

WILLACY COUNTY—Kingwood's Stillman Ranch 1, lot 16, blk 30, sh 44, Stillman Ranch sur, San Juan Carricitos gr, dr 4475 ft. South Texas Dev. Co.'s F. Armendiez 1-A, sh 4, td 3660 ft, washing down to re-dr.

WILLIAMSON COUNTY—Fuch & Walters' F. Ollman 1, Bevil sur No. 56, sd 875 ft. J. W. Gabehardt et al's Lawrence 1, S. Miller sur, dr 735 ft. Glass Bros.' A. Albertson 1, P. Coursey sur, set 42 ft sur csg, sd. H. F. Goff et al's A. Klotz 1, W. Cartwright sur, sd 1210 ft. Rule et al's Bochmeyer (Rummel) 1, 3150 ft swl, 3250 ft sel of P. Cartwright sur, dr 735 ft. W. L. Stephens et al's J. P. Carlson 1, S. C. Jones, 10 mi sw Taylor, run pipe to dd fr 925 ft.

ZAPATA COUNTY—Cox et al's S. Yzaguire 1, sh 17, por 15, S. Lopeno field, dr 2810 ft. H. C. Dean et al's J. M. G. Martinez 1, blk 34, sh B, W. R. Duke sub, Charco Redondo gr, sd 106 ft. Gem Oil Co.'s J. G. Ramirez 1, sh 3, por 18, ¼ mi se Lopeno field, td 3502 ft, pb to comp as gasser. Humble's E. Dominguez 1, por 31, dr 1983 ft. Kenrow & Co.'s Pedro de los Santos 1, 330 ft nwl and swl ,sh 26, Fansler Part, Comitas gr, lcn. Martinez & Daniels' A. M. Bruni 1, blk 44, San Ignacio sub, Borrego Gr, td 1834 ft, set 7-in csg 1828 ft, complete 30 MCF gas per day. J. J. O'Hern's Alexander 1, sh 7, por 22, n Lopeno field, set csg 2326 ft, wocs. Duke Phillips L. Gutierrez 1, blk 21, La Huerta Gr, 6 mi sw Escobas field, mim. E. L. Smith Oil Co.'s R. Hinnant 1, blk 27, sec 307, td 2505 ft, pb 1400 ft, testing. Stover et al's F. G. Martinez 1, blk 125, sh 1, El. Grullo Gr, dr 1425 ft.

TEXAS GULF COAST

ANGELINA COUNTY—Lee Tex Oil Co.'s A. H. Geisler 1, nw of Lay, B. J. Thompson sur, making one barrel of fluid per hour from 2053 ft. Koch & Duffey's L. W. Alberry 1, near Diboll, J. A. Prado sur, dr shale 2178 ft.

AUSTIN COUNTY—Deering & Kayser's T. A. McClenton 1, se of Bellville, Thos. Bell sur, sd 2360 ft. R. L. Wheelock et al's Mrs. N. Harrigal 1, w of Bellville, B. Babbitt sur, ru.

BRAZORIA COUNTY—Amerada Pet. Co.'s Houston Farms Dev. Co. 1, Rattlesnake mound, Perry & Austin sur No. 106, dr shale 4688 ft. Harrison & Abercrombie's Bernard River Land Co. 2, Old Ocean, Chas. Breen sur, dr shale 8428 ft. Quintana Pet. Co.'s G. L. Wood 1, e of Nash Dome, Thos. Albers sur No. 4, dr shale 6308 ft. The Texas Co.'s Freeport Sulphur Co. 1, e of Canal, Areola sur, placing well on chamber lift, comp. 50 barrels per day from 4544 ft.

CHAMBERS COUNTY—Glen McCarthy & R. A. Mason's R. M. White 1, nw of Anahuac, J. McGahey sur, preparing to drill out plugs. Seven in casing set at 7003 ft.

COLORADO COUNTY—Clyde Creighton et al's H. Witte 1, s of Bernardo, H. Witte sur, sd 350 ft. Coyle-Concord's Fee 1, I&GN sur, sec 45, sd 700 ft. Trans-State Oil Co.'s Frank Weinhuhn 1, due north of Columbus, F. A. Zisemmerscheidt sur, sd 3765 ft.

FT. BEND COUNTY—C. B. Bunte's S. J. Winston 1, n of Rosenberg, S. Isaacs sur, abd lcn.

GALVESTON COUNTY—Coast Pet. Corp.'s Maco Stewart 1, w of Dickinson, W. K. Wilson sur, preparing to set 5 in csg 8542 ft.

GRIMES COUNTY—Dillinger & Hammer's Lane 1, e side of county, R. P. Stewart sur, dk.

HARRIS COUNTY—Graham & Gardner's A. E. Hegar 1, n of Hockley, John W. Clifton sur, dr shale 5008 ft. E. E. Young's Griffith 2, A. R. Bodeman sur, dr shale 1258 ft.

JASPER COUNTY — Marathon Oil Co.'s Jasper County Lbr. Co. 1, se of Jasper, T. C. Holmes sur, woc 652 ft.

JEFFERSON COUNTY—Sun's Hebert & Broussard 1, s of Lovall Lake, B. Blackmon sur, dr shale 6978 ft.

LIBERTY COUNTY—Jack Frazier's Lynott Buffon 2, n of Hardin, J. Robeson sur, preparing to drill plugs.

MATAGORDA COUNTY — Continental's Feife 1, Citrus Grove, J. S. Chriswell sur, setting csg 6073 ft. Helmerich & Payne's H. B. Hawkins 1, Sheppards Mott, D. A. McCarthy sur, fsh 5125 ft. N. M. Smith's Wadsworth Estate 1, s flank of Sheppards Mott Dome, S. R. Fisher sur, no report.

MONTGOMERY COUNTY — V. E. Bolyard's Atkinson 1, n of Pinehurst, R. George sur, dr shale 3008 ft. Paul Sanders et al's Tex. L. L. L. Co. 1, Splendora, Walker County School Land sur, preparing to core 5685 ft.

ORANGE COUNTY—Dick Schwab's Banker & Rutan 1, Jett sur, abd 7265 ft.

SAN AUGUSTINE COUNTY—The Hunter Co.'s Long Bell Lbr. Co. 2, Galloway sur, abd 1585 ft.

SAN JACINTO COUNTY — Darby-Jones-McBee Drilling Co.'s J. E. Bennett 1-A, David Beer sur, dr shale 3708 ft.

WYOMING

ALBANY COUNTY — Ohio's Two River Land & Cattle Co. 1, se ne 8-17n-74w, cementing 11¾-in 209 ft.

CARBON COUNTY—General's Whitford 1, sw se ne 24-20n-84w, rigging to resume 4400 ft.

CROOK COUNTY—M. D. Miller's Kinter 1, n½ ne se 13-52n-62w, dr 1230 ft.

CONVERSE COUNTY—Chadron-Osage Oil Co.'s State 1, cse 16-32n-69w, dr 716 ft.

FREMONT COUNTY—Monongahela Oil Co. and Sidney H. Keoughan's Wisda 1, ne se 13-26e-93w, dr 3850 ft.

WESTON COUNTY — Conway Oil Co.'s Government 1, se se ne 7-41-48n-91w, dr 2047 ft.

NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

WELDING TORCH
Linde Air Products Company

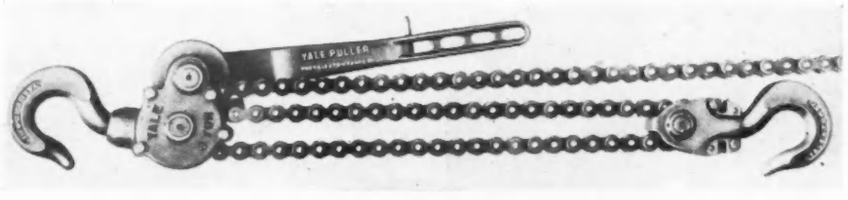
Linde Air Products Company, New York City, has announced a new welding torch known as the Purox No. 35 general duty type. In mechanical details this new piece of equipment embodies refinements in design and operation that make it outstanding among medium pressure torches, the manufacturer claims. Constructed of extruded brass, Monel metal, and drawn copper, and with silver soldered tubes, this torch is rugged and can stand rough treatment. Its range of usefulness makes it equally adaptable to the lightest as well as the heaviest work to be found in any welding shop, it is claimed. It is listed by Underwriters' Laboratories, Inc.

There are many features. The ribbed design of the extruded brass handle reinforces the torch and enables it to be easily gripped. The connections are ferrule type and extend parallel to the axis of the handle. The individual mixers in each welding head are so designed that maximum resistance to flashback is afforded and at the same time the effective range of each size tip is greatly increased. Nine tips perform the duty of 15, the number usually required. The Monel metal seating surfaces are protected, wear-resistance, and easily removable for cleaning or replacement.

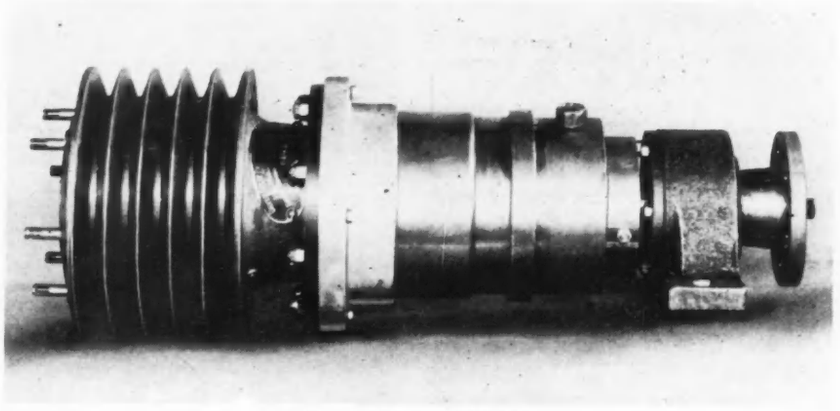
A hexagonal socket arrangement permits the welding head to be assembled in the most convenient of six optional positions in relation to the body. This arrangement also prevents injury or scoring of the seating surfaces. The tips are of hard-drawn copper. They are of the correct weight to withstand excessive heat and to maintain balance in the torch as a whole.

CHAIN HOIST
The Yale & Towne Manufacturing Co.

The Yale & Towne Manufacturing Company, Philadelphia, has announced a hoist and chain pull that has been named the "Pul-lift." The name is derived from the fact that the device may be used in either horizontal or vertical position. Used horizontally it may be employed in stretching cables, pulling in boiler tubes, pulling machines into position and for other purposes. Used vertically as a hoist it lifts loads to six tons. The hoist-lift is light in weight, and the moving parts are enclosed.



Vale Chain Hoist



Davey Power Take-Off

POWER TAKE-OFF
Davey Compressor Company

Davey Compressor Company, Kent, Ohio, has announced a new type power take-off that can be moved quickly to the job and away again on its own power, and that can be stripped of its own weight. The device is the invention of Paul H. Davey, and was first employed in driving an air compressor mounted on a truck chassis by means of the motor itself. The manufacturer claims that it is equally adaptable for operating other kinds of truck-mounted machinery, such as pumps, arc welders, and other equipment.

The power take-off operates from the truck drive shaft by a clutch and is controlled from the driver's cab. A pull of the lever engages the clutch, applying the full power of the truck motor to operation of compressor or other equipment through a sheave and V-belts. Weight is greatly reduced and operations simplified through elimination of a separate motor to operate the compressor or other unit.

BELT CUTTER
Flexible Steel Lacing Company

Flexible Steel Lacing Company, Chicago, has announced an eight-inch flat belt cutting tool which employs a new principle in mechanical belt cutting. The cut is made by pushing the knife through the belt from one edge to the other. The knife is mounted on a plunger in a slot and is operated easily by a direct arm push without mechanical leverage.

The knife goes "like cutting cheese" through most belting, but it will cut even the thickest and toughest belts up to eight inches in width with little effort, it is claimed. The knife, of special alloy steel, will make several thousand cuts and is easily replaceable.

The belt is held immovable by the equalizing clamp or hold-down while the cut is being made. The clamp is also a guard for the blade. Clamp and frame are strongly built of aluminum alloy. The cutter is used either on the bench or is upended on the floor, as desired.

VIBRATING MUD SCREEN
Allis-Chalmers Manufacturing Company

Allis-Chalmers Manufacturing Company, Milwaukee, has announced a new mud screening unit consisting of a mud feed box, vibrating screen and mud discharge all mounted on a heavy steel frame and skids. Any standard mud flow pipe can be connected to one or more covered openings in the feed box or, if preferred, a feed trough can be used.

The vibrating screen is "free swung" on coil compression springs and driven through V-belts from an electric motor or steam turbine mounted "dead" out of the way on top of the frame. Angle of screen can be changed by simply turning nuts above the coil springs. "Arch-Braced" screen cloth is in two sections, with automatic constant tension. Intensity of vibration is easily adjusted from minimum to maximum with no removable weights.

WEIGHING DEVICE
The Falk Corporation

The Falk Corporation, Milwaukee, has announced a weighing device for the instantaneous measurement of well loads. It was designed to meet the needs of the oil producer who desires to know the weight of pumping wells. The device functions through the stretch of steel, and makes use of this useful coefficient by translating the stretch into pounds of pull or load to be read on a dial, the same as an ordinary spring scale. The load on an ordinary polish rod is weighed by

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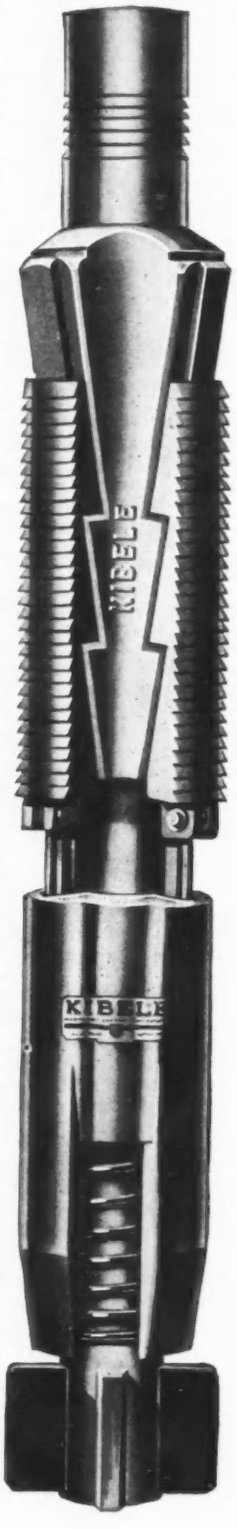
clamping the device to the rod and following the instructions supplied by the manufacturer. In case a permanent record of a well is wanted, the "card" of the well may be easily plotted.

TUBING CATCHER

Kibele Manufacturing Company

Kibele Manufacturing Company, Dallas, Texas, has announced a tubing catcher that provides an increase in the area of slips to prevent their being forced outwardly through casing walls by the weight of extremely long strings of tubing. This improvement is accomplished without being forced away from the most effective wedging angle, and without complicating the structure or increasing the number of operating parts. The company uses a stepped mandrel which permits an increased contacting area for the slips.



The increase in slip area does not block the ample fluid passage of the tubing catcher. All parts of the catcher are stream-lined in order to offer minimum resistance to gas and fluid in going down the hole. A two-step catcher is employed in wells 4000 feet or less in depth and a three-step catcher (see illustration) is used in wells more than 4000 feet deep. In very deep wells where two catchers are ordinarily used, the company furnishes the two-step catcher for the top of the tubing string and the three-step catcher, with Kibele J-Tool type anchor, for the bottom.

The tubing catcher is made with spring and actuator wide open in order to be free of sand or paraffin accumulation. It is short to facilitate running in crooked holes and is of rugged construction to withstand the shock of dropped tubing.

Catalogs . . . Bulletins

Alloys

The International Nickel Company, Inc., New York City, has issued Bulletin T-9, giving technical information and engineering properties of "K Monel", a corrosion resistant, nonferrous alloy of nickel, copper and aluminum.

Nickel Alloy Cast Irons

The International Nickel Company, Inc., New York, has issued a nickel cast iron data sheet entitled "Nickel Cast Irons and their Special Applications in Petroleum Production Equipment."

Aluminum

Aluminum Company of America, Pittsburgh, has issued a completely revised edition of the booklet "Alcoa Aluminum and Its Alloys", which is the most comprehensive treatise on aluminum that the company has for distribution.

Reamer

Grant Oil Tool Company, 2042 East Vernon Avenue, Los Angeles, has issued an attractive bulletin, No. 35-1, describing the reamers manufactured by the company.

Gas Burners

The Inferno Company, Shreveport, Louisiana, has issued Bulletin No. 5 that describes the low-pressure gas burners manufactured by the company.

Cutting Tools

Landis Machine Company, Waynesboro, Pa., has issued an attractive folder that shows the advantages of replacing obsolete equipment with the modern types. In this folder the performance of the latest thread cutting machinery is described.

Deep Well Pumps

Worthington Pump & Machinery Corporation, Harrison, New Jersey, has published an eight-page booklet covering deep well turbine pumps manufactured by the company. In making requests for this bulletin, ask for No. W-450-B17A.

Welding

The Linde Air Products Company, New York, has announced publication of "The Metallurgy of Oxy-Acetylene Welding of Steel". This booklet by J. H. Critchett, vice president of Union Carbide and Carbon Research Laboratories, is an informative discussion of the physical and chemical principles involved in the oxy-acetylene welding of steel.

Diesel Engines

The Cooper-Bessemer Corporation, Mt. Vernon, Ohio, has issued a bulletin entitled "Type GA Single and Twin Cylinder Horizontal Diesel Engine.

Slush Pump

The National Supply Company, Toledo, Ohio, has issued Bulletin No. 71, describing the Ideal Power driven slush pump manufactured by the company.

Gas Engines

The National Supply Company, Toledo, Ohio, recently issued Bulletins Nos. 65 and 66, the former describing the 25-30-horsepower, Type "C" gas engine, and the latter describing the 40-45-50-horsepower, Type "C" gas engine manufactured by the company.

Brake Lining

Emsco Asbestos Company, Downey, California, has issued an attractive bulletin describing the new "Emsco Engineered Rotary Brake Lining Sets" for rotary drilling.

Air Lift Systems

Worthington Pump & Machinery Corporation, Harrison, New Jersey, has issued Bulletin No. L-800-B1 describing and illustrating its air lift pumping systems operated by air compressors.

This Week with the Industry's EQUIPMENT SUPPLIERS

Gustin-Bacon Company Largely Expanding Activity

Gustin-Bacon Manufacturing Company of Kansas City, Missouri, recently has expanded its lines of manufactured products and its distribution and sales locations.

For a number of years the company has maintained a sales branch at Tulsa, and has been active in the states of Oklahoma and Kansas. During the first part of 1934 a branch and sales office was opened at Houston, Texas; early this year established sales representation at Wichia and just recently at Dallas, Texas. The company also operates service depots at Chase, Russell and Burrton, Kansas, and Oklahoma City, Oklahoma, and at Kilgore, Texas.

In the last year it has placed on the market several new products, notable among which are "G-B Rokflos" insulation and pipe covering; "G-B Rolagrip" pipe couplings and a complete line of pipe coupling rubbers and gaskets, and the G-B line of rod and sheet packing.

Gustin-Bacon Manufacturing Company also is distributor for Goodyear Tire and Rubber Company on mechanical rubber goods throughout the Mid-Continent and Gulf Coast oil fields.

A. L. Gustin, Sr., president of Gustin-Bacon Manufacturing Company, is well known in the petroleum industry.

J. F. Stephens, general manager located at Kansas City, is in active charge of the company's oil industry division. He came to the company two years ago from Goodyear Tire & Rubber Company, where he was assistant manager of mechanical goods sales.

W. L. Rock and Charles Wheatley, both located at Kansas City, supervise respectively the company's insulation and pipe line equipment sales.

A. L. GUSTIN, SR.

The Wichita sales office covering Kansas is in charge of C. H. Monnette who has represented the company in Kansas and Oklahoma.

The Tulsa representatives are F. P. Monahan, formerly president of D. F. Connelly Agency, and active for a number of years with the oil trade in the Mid-Continent field, and Ross A. Flatt.

The Houston branch is managed by Hugh M. Stone, formerly vice president of Peden Iron & Steel Company. B. F. Coombs is representative for the company with headquarters at Houston. H. E. Burtner recently has been established as representative for the company in Fort Worth and Dallas area.

With respect to the company's activities with the petroleum industry, Mr. Gustin has stated, "while our company like most others has not been particularly encouraged by the business conditions of the past few years to engage in a program of expansion, we confidently feel that a period of much improved business cannot long be delayed and we also feel certain that the petroleum industry will be among the first to respond to improved business. Accordingly, we have chosen what we feel to be the eve of this revival of business as a time to perfect new product lines and to extend our sales activities throughout the Mid-Continent field. It is our thought that new and worthy product lines, augmented by a distribution and service that particularly recognizes the needs of the petroleum industry, will place us in a position to liberally share in the much larger business volume that we feel is just ahead."

J. F. STEPHENS

National Pigments Acquires California Talc and Baroid Sales

National Pigments & Chemical Company, subsidiary of National Lead Company, which owns and controls the basic patents governing the use of Aquagel and Baroid, has acquired ownership of California Talc Company, including its mines, plant and equipment; and Baroid Sales Company.

Starting in 1928 with but one distributing point, the Los Angeles plant, under the guidance of George L. Radcliffe, president and general manager, California Talc Company and Baroid Sales Company have grown so that at the present time the companies and their distributors carry over 100 stocks, serving every active oil field in the U. S. The company's products also are used in foreign fields.

Research work has been carried on continuously since 1928 at California Talc and Baroid Sales laboratories in Los Angeles and Houston, bearing on the actions and functions of drilling mud.

Besides the research laboratories, Barcid Sales Company maintains a staff of field engineers in all domestic oil fields, operating a fleet of specially built laboratory cars containing equipment for the complete testing of mud right at the well. The headquarters of the company is in Los Angeles, sales offices in Houston, Texas, and Tulsa, Oklahoma.

George L. Radcliffe, president and general manager, and R. E. Scott, Jr., secretary-treasurer, have been with the company throughout its period of expansion. There will be no change in management of personnel.

Alfred C. McAfee Joins Oil Center Sales Staff

Oil Center Tool Company announces the addition of Alfred C. McAfee to its sales staff, taking him from the field where he has acquired over the past 15 years a well rounded out experience in the drilling and production branch of the industry. McAfee studied engineering and geology at A. & M. College of Texas and T.C.U. and has been in the service of a number of major companies, including

ALFRED C. McAFEE

The Texas Company, Pure Oil Company, Stanolind Oil & Gas Company and the Tide Water-Seaboard. He entered the field as a helper with the Prairie Pipe Line Company at Ranger in 1918.

Halliburton Granted Decision in Formation Tester Patent Case

On July 6 Federal Judge Randolph Bryant held that the patent applied for February 10, 1926, and granted October 17, 1933, under which Halliburton Oil Well Cementing Company operates its formation testing activities under a license from Erle P. Halliburton, was valid and was infringed by Johnson Formation Testing Corporation.

The case was tried a year ago at Sherman, Texas. Judge Bryant wrote in the decision:

"After full consideration of the matter, I have concluded that John T. Simmons is the sole, only and original inventor of the testing device or apparatus covered by the patent in suit. That the patent belongs to Mr. Halliburton as the assignee of the inventor, and that an exclusive license to operate under the same has been conferred upon the Halliburton Oil Well Cementing Company.

"That the patent is valid as to both the apparatus and method claims. That the defendants have infringed upon plaintiffs' rights and that plaintiffs are entitled to relief in the usual form."

In the suit, Halliburton claimed that this very important step was first accomplished in 1926, and after an introductory period during which a number of free demonstration tests were made, the Halliburton tester became generally used on a commercial basis in 1927. He also states that in the nine successive years of continuous usage, many thousands of successful formation testing jobs have been done throughout the world.

Emsco Derrick Elects Two New Vice Presidents

Harry C. Morehouse has been elected vice president and sales manager, machinery division, and L. A. Rawson vice president and manager, structural division, of Emsco Derrick and Equipment Company, according to E. M. Smith, president of the company. Both Morehouse and Lawson have been connected with the company practically since its foundation and both have had wide experience in the Mid-Continent and California oil fields.

HARRY C. MOREHOUSE

L. A. RAWSON

Jon R. Long Appointed Exner-Dodge Distributor

Exner-Dodge Packer Company, Coffeyville, Kansas, has announced the appointment of Jon R. Long, Fort Worth, Texas, as selling representative and distributor of Exner-Dodge oil and gas well packers in Texas. A complete line of packers will be carried for immediate shipment.

SUPER FLEXIBLE

It's the extraordinary flexibility of Grizzly Hose that enables it to stand up under the constant hammering of the deepest drilling.

Try Grizzly Powerflex — it will carry you through any troubles you might run into.

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Squeaks from the Bull Wheel

Another Rubicon

"Yes, my husband has decided to give up his profession. He has burned his bridges behind him."

"Dear me! I do hope they weren't his best pair!"

That Was Nice of Her

And where is your sister, Jimmy?

She just ran upstairs to change rings when she saw you coming.

Experience Taught

"Well, Uncle Joe, I will make you a deed to the farm since it has been paid for."

"Boss, if it am all de same to you I had much rather you would give me a mortgage to de place."

"Uncle Joe, you don't seem to know the difference between a mortgage and a deed."

"Well, maybe not, but I owned a small farm once to which I had a deed and de Fust National Bank had a mortgage, and de bank got de farm."

Boy's Essay

"The mewl is a hardied bird than a guse or turkie. It has two legs to walk with, two more to kick with, and wears its wings on the side of its head. It is stobbornly backward about coming forward."

Injury Added

A Scot was engaged in an argument with a conductor as to whether the fare was 25 or 30 cents. Finally the disgusted conductor picked up the Scotsman's suitcase and tossed it off the train, just as they passed over a bridge. It landed with a splash.

"Mon," screamed Sandy, "isn't it enough to try and overcharge me, but now you try to drown my little boy."

All Square

The foreman was going from one man to another with a sheet of paper. When he came to Sandy McKie, he said:

"Sandy, this is a subscription to get a wreath for Jock Stuart, who died last week. All your mates have given a dollar toward it."

"Och, man," replied Sandy, "that'll make me an' Jock square. He owed me a buck."

On Installment

"I've been watching the dancing," the eminent visitor remarked to Lez Deeson of Lazy Ledge, Ark. "I notice the rich and the poor dance pretty well, but the middle class are only fair steppers."

"The middle class is plenty good," bristled Deeson, "only they gets interrupted lots, havin' to step up an' pay the fiddler."

Wind Change?

A native of a western town, which had had a remarkable boom some years ago, moved away. Recently he happened to run across one of his old neighbors when they were both on a trip to Washington. The first man asked the second how things were in the old home town. The friend replied: "You can't imagine how dull they are. You remember Bill Watson? Well, he dropped dead in front of the post office Sunday and they didn't find the body until Thursday."

Mouths of Babes

Uncle John came to visit, and before he left he gave his nephew a dollar bill.

"Now, be careful with that money, Tommy," he said. "Remember the saying, 'a fool and his money are soon parted'."

"Yes, uncle, but I want to thank you for parting with it, just the same."

Party On

"Say, buddy, could you let me have a dime for a cup of coffee?"

"A dime? I thought coffee was only a nickel."

"I know, but I gotta date."

Original

"This pie is burnt to a cinder. Didn't you cook to instructions?"

"No, it's my own cremation."

And Watching

"What is the feminine of bachelor?"

"The feminine of bachelor is lady-in-waiting."

Good Sign

Barber: "Was your tie red when you came in here?"

Sucker: "No, it wasn't!"

Barber: "Gosh, I must have cut your throat."

Shutout

1st Baseball Player: "You didn't do so well with that millionaire's daughter, hey?"

2nd Baseball Player: "Terrible—no hits, no runs, no heiress."

Boastings

"The sun never sets on the British Empire," said the Englishman proudly.

"How unfortunate!" remarked the American girl. "At home we have such lovely sunsets."

Normal

"Your wife has been delirious all day," said the nurse, "calling for you and crying for money."

"Delirious!" snorted friend husband. "She's normal!"

Amateur

"Come on into the barn and I'll show you how to milk a cow."

"Don't you think I'd better start on a calf?"

Heredity Working

"Wot yo' doin', chile?"

"Nothin', mammy."

"My, but yo' is gettin' like yo' father."

Silent Partner

"Is that Peabody, Finchley, Longworth, and Fitzgerald?"

"Yes, this is Peabody, Finchley, Longworth, and Fitzgerald."

"I want to speak to Mr. Smith."

RODESSA

We don't care to make any fool predictions, but we don't mind telling you that this Rodessa discovery makes us glad we're native sons, with a quarter-century of seasoned experience at the command of our friends and customers. You know The PELCO Gang started operations in North Louisiana about the time the first field was opened up.

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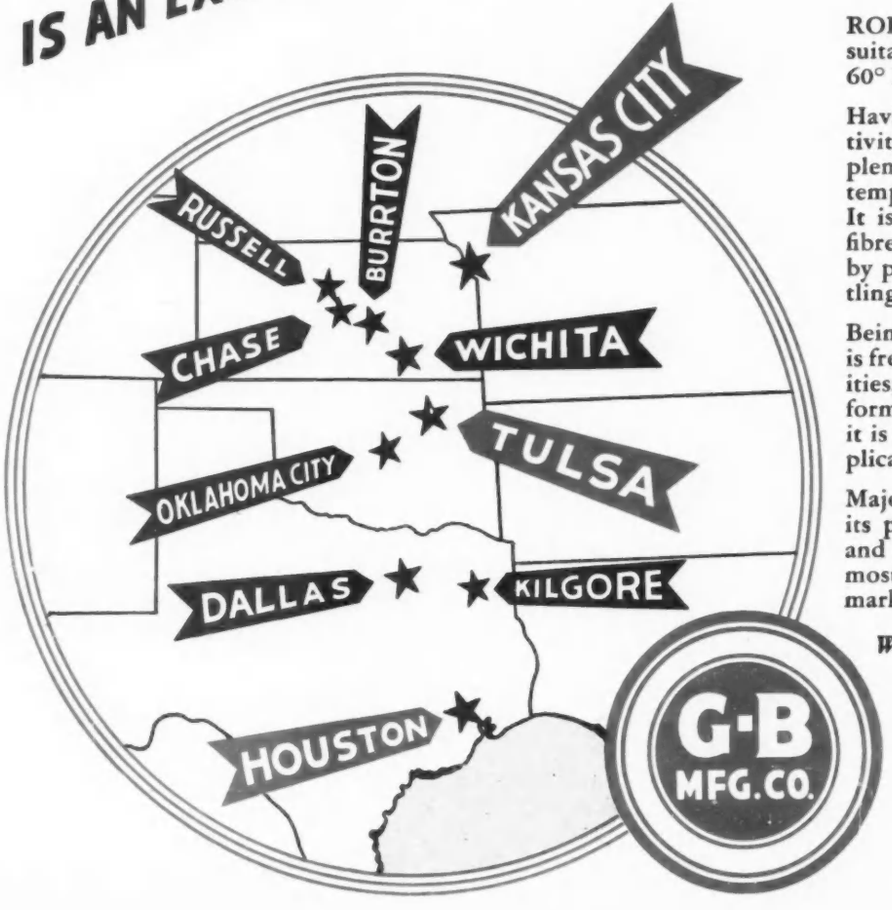

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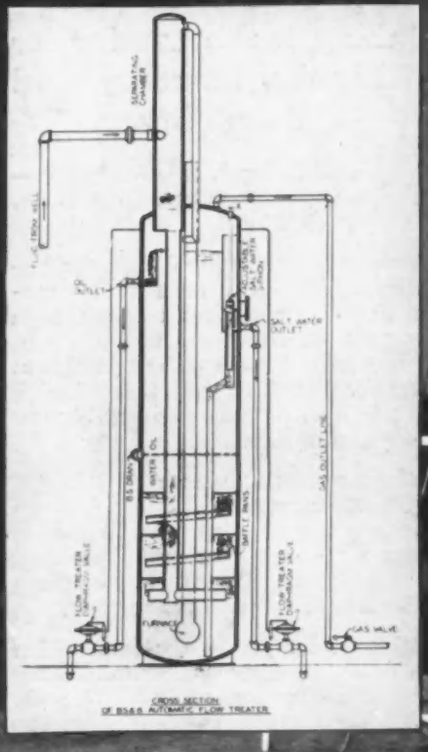

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